

**Paul, Tyra**

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**From:** Robichaud, Blake M <Blake.Robichaud@novascotia.ca>  
**Sent:** Wednesday, January 9, 2019 9:14 AM  
**To:** MacPhail, Helen; McNally, Kelly D; MacKinnon, David S; Cameron, Melanie J; Bird, Michael W; O'Halloran, Bill W; Nikoloyuk, Jordan; Weseloh McKeane, Sean; Bekkers, Kevin F; McLean, Mark G; Dera, Beata E; Rillie, Claire Z; michael.hingston@canada.ca  
**Subject:** Alton Jan 15 One Window Agenda Items

Good Morning,

AltaGas has proposed the following items to be covered at next week's one window. Please let me know if there is anything else you would like covered and I will include it in the agenda. Please let me know if there is anyone else from your department/agency that should be added to the appointment given this content.

**1. General update**

- In-service date for project: 2022
- Brining - timeline for commencement of brining being determined
- Focus on pipeline EA conditions
- Ongoing geological evaluations
- Regulatory matters
- Community engagement

**2. Estuary**

- Removal of sediment from mixing channel
- Toxicology testing
- Fish barrier – consideration by Alton
- Other

**3. Gravity Survey**

- Work completed as described previously by Alton.
- Next steps involve data analysis and report.

**4. Pipeline – NS Environment/ DNR**

- Alton to provide general update on re-route activities
- Discuss commencement of work
- Proposed Wilderness Area Compensation Plan – Update from NS Lands & Forestry on options and value of land; discussion of certain parcels; discussion of other options
- Obtaining easements from Crown for pipeline route
- Other

**5. Other matters/ roundtable discussion**

Thank you,

Blake Robichaud  
Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.424.0909 | 902.478.9063 (c)

**Paul, Tyra**

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**From:** Robichaud, Blake M <Blake.Robichaud@novascotia.ca>  
**Sent:** Friday, January 11, 2019 2:42 PM  
**To:** Tim Church; MacPhail, Helen; McNally, Kelly D; MacKinnon, David S; Cameron, Melanie J; Bird, Michael W; O'Halloran, Bill W; Nikoloyuk, Jordan; Weseloh McKeane, Sean; Bekkers, Kevin F; McLean, Mark G; Dera, Beata E; Rillie, Claire Z; MacKenzie, Tanya L; Johnson, Kathleen; [REDACTED] Cassidy, Sean; Bob Rutherford; Tupper, Ann; [REDACTED] michael.hingston@canada.ca  
**Subject:** Agenda - Alton Gas January 15 One Window  
**Attachments:** 2019-Jan-15 Alton Gas Project - Regulators One Window Agenda.docx

Good Afternoon,

Attached is the agenda for next Tuesday's one window meeting, develop through input from the project proponent and regulators. Please let me know if you would like to include any other items.

Thank you,

Blake Robichaud  
Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.478.9063

## AGENDA

### Alton Gas Project – Regulators One Window

Location: Nova Scotia Department of Business, 1660 Hollis Street, 6<sup>th</sup> Floor, Room 6D

January 15, 2019                    10:00am – 12:00pm

#### 1. General update

- In-service date for project: 2022
- Brining - timeline for commencement of brining being determined
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- Next steps involve data analysis and report.

#### 4. Pipeline

- Alton to provide general update on re-route activities
- Discuss commencement of work
- Proposed Wilderness Area Compensation Plan – Update from NS Environment on options and value of land; discussion of certain parcels; discussion of other options
- Obtaining easements from Crown for pipeline route
- Other

#### 5. Consultation – Office of Aboriginal Affairs

#### 6. Other matters / roundtable discussion

**Paul, Tyra**

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**From:** Bird, Michael W <Michael.Bird@novascotia.ca>  
**Sent:** Friday, January 11, 2019 3:13 PM  
**To:** Robichaud, Blake M; MacPhail, Helen; McNally, Kelly D; MacKinnon, David S; Cameron, Melanie J; O'Halloran, Bill W; Nikoloyuk, Jordan; Weseloh McKeane, Sean; Bekkers, Kevin F; McLean, Mark G; Dera, Beata E; Rillie, Claire Z; michael.hingston@canada.ca; MacKenzie, Tanya L; Johnson, Kathleen  
**Subject:** RE: Alton One-Window Regulators Pre-Meeting Conference Call  
**Attachments:** Letter to B. Kiley Jan 11 19.pdf

Hi everyone,

As I mentioned on the call this week, the deadline for Alton's response to public comments in front of the NSUARB respecting their application to renew their authorization to construct was today, I have attached their response to this e-mail. It is fairly high-level, but looks to address some common themes in the comments.

I also wanted to draw attention to section 2.8 on Emergency Response Plans as it is relevant to the discussion on this weeks call.

## **2.8 Emergency Response Plan (ERP)**

Several comments were made in relation to evacuation and response plans in the event of an emergency. Protecting public safety and the environment are core values of Alton. The purpose of an ERP is to ensure there are documented procedures and training to manage emergency situations should they arise. ERPs are developed to support a given phase of development, ranging from the construction phase to operational phase when a facility is in-service. An ERP is presently in place for use on the Alton Project during active site construction. A second construction plan will be developed to address brining operations and a third plan will be in place prior to the storage facility becoming operational, which is expected in 2022.

Each ERP is intended to provide guidance and direction for responding to unplanned events during a particular stage of the Project. This helps ensure, as the Project activities change, that the ERP is appropriate for the current activities. All personnel will be properly trained on the ERP for the appropriate phase of development. Alton will work with emergency responders, including the local fire departments, to ensure familiarity with facilities and proper training on the ERP.

The ERPs will identify residents who could potentially be impacted by an unplanned event at the Alton facilities. During brining operations and construction activities, there is no situation that could result in a need for a response by residents. The brining operation will be ongoing for 24 to 36 months during which time brine and water are being transported to and from the river location. No natural gas will be present at either site during this time.

Once the caverns have been constructed, an ERP will be put in place that will address the risks and potential impacts for hydrocarbon storage operations. Development of the ERP will include discussions and planning with local first responders. Based on the identified events and the potential impact areas, residents located within these areas will receive relevant communications pertaining to Emergency Response Planning well in advance of the project becoming operational in 2022.

I hope that helps,

Michael

**Michael Bird, P.Eng.**  
*Petroleum Operations Engineer*  
**Nova Scotia Department of Energy and Mines**  
(902) 719-4316  
1690 Hollis Street, Halifax, NS  
[www.novascotia.ca/energy](http://www.novascotia.ca/energy)

-----Original Appointment-----

**From:** Robichaud, Blake M <Blake.Robichaud@novascotia.ca>  
**Sent:** January 9, 2019 10:32 AM  
**To:** MacPhail, Helen; McNally, Kelly D; MacKinnon, David S; Cameron, Melanie J; Bird, Michael W; O'Halloran, Bill W; Nikoloyuk, Jordan; Weseloh McKeane, Sean; Bekkers, Kevin F; Mark.McLean@dfo-mpo.gc.ca; Dera, Beata E; Rillie, Claire Z; michael.hingston@canada.ca; MacKenzie, Tanya L; Johnson, Kathleen  
**Subject:** Alton One-Window Regulators Pre-Meeting Conference Call  
**When:** January 9, 2019 3:30 PM-4:30 PM (UTC-04:00) Atlantic Time (Canada).  
**Where:** Dial-in information in appointment  
**Importance:** High

Good Morning,

Apologies for the short notice same-day call, but this looks like the only time the works for most people before next week's one window.

We will be having a conference call this afternoon in advance of the January 15<sup>th</sup> Alton Gas one window so that we have a chance to touch base on any live issues or items that should be discussed amongst the regulators before we meet with the proponent.

If you are unable to participate in the call, please contact me directly via phone (902.478.9063) or via email with any items you would like flagged during the call and we can ensure there is some follow-up with you prior to the one window, or alternatively forward the appointment to someone who can speak on your behalf.

Please use the following information to call in:

Toll-free dial-in number: 1-844-220-3467  
Local dial-in number: 902-566-0098  
Conference ID: 

Per the email sent earlier this morning, the proponent has put forward the following items to inform the one window agenda:

**1. General update**

- In-service date for project: 2022
- Brining - timeline for commencement of brining being determined
- Focus on pipeline EA conditions
- Ongoing geological evaluations

- Regulatory matters
- Community engagement

**2. Estuary**

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- Other

**3. Gravity Survey**

- Work completed as described previously by Alton.
- Next steps involve data analysis and report.

**4. Pipeline – NS Environment/ DNR**

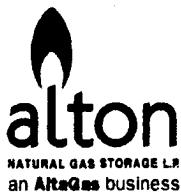
- Alton to provide general update on re-route activities
- Discuss commencement of work
- Proposed Wilderness Area Compensation Plan – Update from NS Lands & Forestry on options and value of land; discussion of certain parcels; discussion of other options
- Obtaining easements from Crown for pipeline route
- Other

**5. Other matters/ roundtable discussion**

Thank you,

Blake Robichaud  
Policy Analyst

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January 11, 2019

Mr. Bruce Kiley  
Chief Clerk of the Board  
Nova Scotia Utility and Review Board  
3rd Floor, Summit Place  
1601 Lower Water Street  
Halifax, NS B3J 3P6

Dear Mr. Kiley:

**RE: Alton Natural Gas Storage LP – (Alton) Request for Extension to Approval to Construct an Underground Hydrocarbons Storage Facility; M08974**

On November 14, 2018, Alton applied to the Nova Scotia Utility and Review Board (NSUARB or Board) for an Extension to its Approval to Construct (Extension Request). As part of the regulatory review process, members of the public were invited to submit letters of comment by December 14, 2018. In accordance with the Board's process schedule, Alton provides its reply to these letters of comment.

Alton has focused its reply on matters raised within the letters of comment which fall within the NSUARB stated mandate in relation to this matter. However, many letters commented on matters which are outside of the scope of the NSUARB's review. In an effort to address misconceptions outlined in the letters of comment, Alton has also provided commentary on these matters. Alton notes that information to address these matters is readily available to all members of the public online through a number of sources, a listing of which is found in Appendix 1 of the attached.

Should you have any questions, please contact the undersigned.

Yours truly,

Tim Church  
President, Alton Natural Gas Storage  
Vice-President, Stakeholder Relations  
AltaGas Ltd.

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  - 2.8 Emergency Response Plan (ERP)
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Appendix 1: Online resources related to the Alton project

## **1. Overview of Alton Project, Construction Update & Scope of NSUARB review of extension request**

### **1.1 Overview of Alton Project**

The Alton Project will help provide Nova Scotians with affordable and reliable natural gas year-round. The underground facility will store natural gas when demand is low so customers can withdraw natural gas when demand increases, typically in colder winter months. Given the recent natural gas production declines and closing of Nova Scotia's two producing natural gas projects (the Sable Offshore Energy Project and Deep Panuke), natural gas storage will provide an increasingly important supply cushion for consumers which is currently lacking in the local market.

As noted in AltaGas' original Application for Approval to Construct<sup>1</sup>, the Alton Project consists of multiple caverns being developed by solution mining in an underground salt deposit. Solution mining is the process where water is used to dissolve a salt deposit to form caverns, which then can be used as storage facilities. In the case of Alton, the salt deposit is a natural geological formation. The caverns, to be located at an approximate depth of 800m, and their accompanying facilities will be capable of safely storing millions of cubic meters of natural gas during peak production/low demand periods and delivering it back to the natural gas pipeline system during periods of supply deficits. Salt cavern natural gas storage has been used extensively in North America for approximately five decades.<sup>2</sup>

The caverns will be developed and operated in a manner that minimizes or eliminates adverse effects on the environment and provides significant economic benefits to Colchester County and the Province of Nova Scotia.

### **1.2 Construction Update**

Alton has constructed many elements of the Alton Project which are ancillary to the underground hydrocarbon storage facilities that are the subject of this application to the Nova Scotia Utility and Review Board ("the Board" or "NSUARB"). The already constructed elements include: water pumping facilities, facilities to support brining, and the drilling of three wells for potential cavern storage at the site. As well, 12 km of water and brine line pipelines have been installed linking the cavern site to the river site. Construction has largely been completed at the river site, including the construction of a mixing channel and its associated intake infrastructure, known as a gabion wall, brine and water holding ponds and associated buildings which house pumps and control equipment. Alton is progressing work on the natural gas pipeline which includes fulfilling related permitting, environmental and safety requirements prior to beginning construction. Approximately \$70 million has been spent on the Alton Project to date.

Future construction activity will include additional cavern well drilling at the cavern site. Some letters of comment raised concerns about the proximity of the cavern locations to residential

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<sup>1</sup> M04172, Application for Approval to Construct (redacted), Exhibit: U-1, June 1, 2011

<sup>2</sup> Final Report: Environmental Registration Document for the Proposed Alton Natural Gas Storage Project, 2007, P-i

homes. Alton will not utilize the well that is close to the edge of the property, closest to the Brentwood Road and residents, for cavern development. As such, cavern wells will now be developed further away from residents on the Brentwood Road than was previously planned by Alton. Any well that will not be used will be properly decommissioned according to regulatory requirements and industry best practices.

### **1.3 Scope of NSUARB Review of Extension Request**

As noted in the Board's Public Notice for the Extension Request, the NSUARB's review of Alton's Extension Request is to consider issues of public safety. The NSUARB's mandate on the matter does not include environmental matters, nor is it the economic regulator of Alton.

The Alton Project has been the subject of considerable review, including, but not limited to, the following:

- Provincial Environment Assessment (EA) approval, with conditions: Alton Underground Natural Gas Storage Project (December 2007)
- Provincial EA approval, with conditions: Alton Natural Gas Storage Pipeline project (May 2013)
- Industrial Approval to Operate a Brine Storage Pond, with conditions (2016)
- Nova Scotia Utility and Review Board – Approval to Construct, with conditions (2013), including oversight by a Board-appointed Certifying Authority (CA)
- Department of Fisheries and Oceans (DFO) review and approval with conditions regarding impacts to fish and fish habitat and Species at Risk (2010)
- A Nova Scotia Environment and DFO approved Estuary Monitoring Plan (2015)
- The Kwilmu'kw Maw-klusuagn Negotiation Office (KMKNO) third party review of the project on behalf of the Assembly of Nova Scotia Mi'kmaq Chiefs and the subsequent technical working committee that was established among the Mi'kmaq of Nova Scotia, the provincial and federal governments and Alton as the proponent. This review focused on the potential impacts of cavern development on the marine environment and took place in 2014-2015.

Recognizing the various regulatory authorities that have jurisdiction over the Alton Project, the extensive evaluation of the Project that has already occurred (including a detailed review of Alton's original application for Approval to Construct) and the comprehensive ongoing regulatory oversight in respect of the execution of the Project, it is Alton's understanding that the focus of the Board's review should be on issues of public safety in connection with extending the time period of the Approval.

Furthermore, Alton submits the Extension Request should not necessitate a wholesale re-evaluation of the safety of the cavern development as that evaluation has already been performed by the Board with the assistance of the Certifying Authority (CA). Moreover, the safety of the cavern development is subject to the ongoing regulatory oversight of the NSUARB and its CA as a result of the detailed conditions included in the Board's original Approval to Construct, which Alton is not proposing to alter.

Although significant progress has been made on the project since the Approval to Construct was issued, Alton has faced delays. The in-service date for cavern storage is 2022. Alton's Extension Request to the NSUARB reflects the need for additional time to complete cavern development. Additional construction activity, such as construction of the natural gas pipeline and compression facilities at the cavern site, will take place concurrently with cavern development. However, such developments will require a separate Approval to Construct from the NSUARB which will assess the safety of the proposed activities.

Given that Alton is not proposing to alter the substantive conditions attached to the original Approval to Construct, including those that involve the ongoing oversight of the CA, the Extension Request does not have any additional impact on public safety. Alton therefore submits that the Board grant Alton's Extension Request.

## **2. Responses to Letters of Comment**

The following sections address matters noted in letters of comment.

### **2.1 Legal and regulatory compliance**

Some letters of comment suggest that Alton will operate without complying with laws or regulatory requirements. Alton will continue to comply with all regulatory and legal requirements. As noted in the Approval to Construct, Alton is required to ensure that all works are carried-out and completed in accordance with all federal, provincial, municipal laws and in particular, the *Underground Hydrocarbon Storage Act*, the *Underground Hydrocarbon Storage Regulations* and *The Code of Practice Respecting the Underground Storage Regulations of Hydrocarbons* (Code of Practice), as amended from time to time; and, all applicable codes and standards, as amended from time, to time.

### **2.2 Suggestion to delay NSUARB decision pending approvals from other regulators; independent review**

Some letters of comment recommended a delay in the NSUARB's decision on Alton's application for an extension until other approvals, or conditions of approvals, are met. Alton submits that this proposal is unworkable and unnecessary given the involvement of multiple agencies (provincial, federal) and the number of permits that need to be issued as the development progresses. There are numerous regulatory approvals and agencies that need to be engaged and each must regulate within its specialized jurisdiction, and respect what is within the jurisdiction of other authorities. Alton further submits that compliance and enforcement mechanisms exist in relation to the various regulatory approvals and as such an appropriate level of oversight is already in place.

Some letters of comment suggested that an independent review should be undertaken regarding project safety in relation to the Extension Request. Alton submits that this is already being addressed through the oversight of the Board, an independent quasi-judicial body, and its third-party CA.

## 2.3 Suitability of salt caverns for gas storage and Expert review

Some letters of comment question the suitability of salt formations as a safe method for storing natural gas. The Stewiacke Formation is the main salt formation within the Windsor Group which is made up of several geologic formations. The Stewiacke Formation underneath the Alton Hydrocarbon Storage-Area Lease offers areas of ideal conditions to provide safe, secure storage for natural gas. As noted in the Alton EA (2007), salt is an ideal substance in which to develop storage<sup>3</sup>. Salt forms a tight seal through which stored fluids or gas cannot escape.

### Expert review

Alton has undertaken extensive technical work in the area to ensure that the development will be a safe, state-of-the-art, modern storage facility. This has included assessments by geologists, geophysicists and globally recognized cavern experts. These experts hold professional designations such as Professional Geologist (P.Geo) and Professional Engineer (P.Eng). The work by these professionally accredited experts has involved de-risking all aspects of the cavern development. This work helps ensure the caverns will be built to the highest standards and according to all accepted professional procedures, regulations, codes and safety standards. In particular, Alton has engaged recognized geological, geomechanical and solution mining experts as part of the Project's development.

For example, RESPEC is a global leader in geoscience and engineering and was engaged to perform a geomechanical study to determine the feasibility of storing natural gas in the Stewiacke Formation and the geomechanical stability of cavern design.<sup>4</sup> During this study RESPEC assessed cavern geometry, operating conditions, stratigraphy, rock properties, fluids, salt dilation, non-salt strength properties, in-situ temperature, stress fields, and built numerical models which were used for performance simulations. Furthermore, RESPEC has also worked extensively to evaluate safe cavern operating pressures, anticipated cavern closure rates, production casing strains, and ground subsidence associated with the caverns.<sup>5</sup>

In addition, contrary to the suggestion that there was not an independent evaluation of the information submitted in support of Alton's original Approval to Construct, the Board-appointed Certifying Authority (CA) was and will continue to be extensively involved in the evaluation and ongoing oversight of the cavern development.

### Independent Certifying Authority (CA)

A CA is an independent, technical body which provides expert review and advice on a given subject matter. Regulators globally engage CAs to review development projects, proponent applications, ongoing operations and other matters. BGC Engineering Inc. (BGC), an applied earth sciences company, was designated by the Board as the CA for the Alton Project<sup>6</sup>. BGC

<sup>3</sup> Final Report: Environmental Registration Document for the Proposed Alton Natural Gas Storage Project, 2007, pp 9, 46.

<sup>4</sup> M04172, Exhibit: U-1, Appendix F.

<sup>5</sup> RESPEC Geomechanical Evaluation of Alton Natural Gas Storage Cavern No. 1RSI-2613 Final, 2016

<sup>6</sup> Alton understands that the NSUARB is in the process of designating a new CA in place of BGC.

reviewed Alton's Application for its Approval to Construct. The project team from BGC which reviewed the application consisted of personnel with technical expertise in the following areas: rock mechanics, underground caverns, underground storage caverns and regulatory requirements, geomechanics and solution mining, petroleum geomechanics, mechanical and electrical engineering.

Following an in-depth review, the CA recommended that the NSUARB grant an Approval to Construct, with conditions, for the Alton cavern development.<sup>7</sup> The Board issued the Approval to Construct, which included 13 conditions and 28 compliance requirements<sup>8</sup>. Since the Approval was granted, Alton has provided information to the CA and has responded to its inquiries. Alton will continue to report to the Board and the CA as the cavern development progresses.

In addition, Alton will ensure that the Project is designed, constructed, operated, maintained and decommissioned in accordance with all applicable standards, laws and regulatory requirements, including the following:

1. *Underground Hydrocarbons Storage Act*
2. *Underground Hydrocarbons Storage Regulations*
3. *Code of Practice, (NS Department of Energy and Mines)*.  
The Code provides both requirements and guidance in the management of storage facilities throughout project life, with a primary purpose of safe operation to protect both the public and the operator's employees. Section 3.1 includes requirements for the geology of cavern storage projects.
4. *CSA Z341 Storage of Hydrocarbons in Underground Formations*  
The CSA Z341 standard sets the requirements for the design, construction, operation, maintenance, abandonment and safety of underground storage systems, with section 5.3 addressing the geology of cavern storage projects. The technical committee, which consists of regulatory, industry, government and other experts from across Canada and the United States, is responsible for the CSA<sup>9</sup> standard and investigates every pertinent incident worldwide and reviews the latest relevant technology, to ensure that the standard covers all potentially hazardous situations.<sup>10</sup>

## 2.4 Past incidents & cavern safety

Safety incidents which have occurred at other facilities were noted in some letters of comment. While one letter of comment referenced a journal article (P. Bérest & B. Brouard: 2003) to question the safety of salt cavern storage, Alton wishes to draw the Board's attention to the article abstract which plainly notes salt cavern storage is the safest way to store large quantities of hydrocarbons and describes how lessons learned from past incidents have led to considerable improvements in storage design and operation:

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<sup>7</sup> M04172 BGC Report of Alton Natural Gas Storage Project, Exhibit U-3, filed May 29, 2013.

<sup>8</sup> M04172 Approval to Construct, Document 55170, filed Sept 4, 2013.

<sup>9</sup> CSA Group is accredited by the Standards Council of Canada, a crown corporation which promotes efficient and effective standardization in Canada.

<sup>10</sup>Final Report: Environmental Registration Document for the Proposed Alton Natural Gas Storage Project, 2007: p 25.

*Thousands of salt caverns (100 in France alone) are being used to store hydrocarbons. This is the safest way to store large quantities of hydrocarbons: salt formations are almost perfectly impermeable, and fire or explosion is impossible underground. However, a small number of accidents (blow-out, product seepage, cavern instability) have occurred in the past. Cavern abandonment is also a concern in some cases. This paper describes several accidents and the lessons that have been drawn from them, leading to considerable improvements in storage design and operation.*

In addition, several letters of comment inaccurately reference United Kingdom – HSE Statistics as reported in HSE Research Report RR 671 (2008)<sup>11</sup>. By way of explanation, the report says on page 2: *The failure rate for a geological failure of the storage cavity in UGS [underground storage] facility is of the order of 10<sup>-5</sup> failures per well year...In major hazard terms this equated to a risk that can be considered negligible.* Further the report says the risk is dominated by release from the well connecting the storage cavity to the surface, but that has a similar order of failure of 10<sup>-5</sup> per year. Furthermore, Alton meets all five of the report's recommendations.

The Alton EA (2007) reviewed the incidents noted in several letters of comment, including those that occurred in Fort Saskatchewan, Alberta and Yaggy, Kansas [Hutchinson].<sup>12</sup> Alton will apply all applicable learnings to ensure that the Alton facility operates at the highest levels of safety.

Applying lessons learned from past incidents is a key driver for continuous safety improvement for Alton. Similarly, as noted above, standards such as CSA are updated frequently to incorporate learnings from past incidents and improvements in technologies and other industry developments.

In addition, it is important to note that several of the incidents referenced in letters of comment are not analogous to the Alton Project. For example, the incident at Aliso Canyon, California in 2015 did not involve modern, engineered salt caverns. Aliso Canyon involved a depleted hydrocarbon reservoir that had been drilled in the 1950s and was converted to store natural gas. A casing leak in the well led to the storage failure. Investigations note that a contributing factor in the incident was the removal of safety valves in the 1970s that were never replaced.

The 2014 incident at the Prud'homme salt cavern storage facility in Saskatchewan, which was built in the 1960s, was the result of a failed steel casing pipe two metres below the surface. During the incident no one was hurt.

To avoid these types of incidents, Alton will verify the integrity of all casings prior to the injection of any natural gas into the cavern, and prior to the facility becoming operational. Testing will continue throughout the life-cycle of the facility to verify the integrity of the cavern infrastructure. Further, CSA Z341, which Alton must follow, contains specific requirements to ensure ongoing integrity of the cavern, including casings, and associated infrastructure.

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<sup>11</sup> Failure rates for underground gas storage: Significance for land use planning assessments. Prepared by Deborah Keeley, Health and Safety Laboratory for the Health and Safety Executive 2008.

<sup>12</sup> Final Report: Environmental Registration for the Proposed Alton Natural Gas Storage Project (2007), p 25.

## 2.5 Geology

Salt is often found in large, relatively homogenous deposits. It dissolves easily with water, making cavern formation through dissolution possible. Unlike other rock types which can fracture in a brittle manner and maintain leakage zones, under significant pressure and temperature, salt deforms in a plastic manner. When this plastic salt flow ceases, the salt resolidifies. At Alton this "flowage" happened approximately 330 Ma, (million years ago). The Stewiacke Formation has been rock salt for the last 300 Ma.

### Extent of Geological Information

Mr. Grantham suggested in his letter of comment that the Stewiacke Formation may not be suitable for cavern development and that the geological information in relation to the Project has been limited. To the contrary, as described above, Alton has undertaken significant analysis of the Stewiacke Formation to ensure that the cavern locations are appropriate for cavern development. During the geologic reviews which have occurred to date, all available subsurface data have been used, including well data from the three wells which were drilled in 2014, all nearby mineral hole data, 2-D and 3-D seismic data, gravity surveys, academic research papers, industry reports and independent consultant reports. The Provincial EA review in 2007 noted that Alton drew on a range of geological information that was available at the time, and not just one well.<sup>13</sup>

In addition, a full geological data review was conducted in 2016 for the Alton Project which included all geological, geo-mechanical, geophysical, gravity and drilling information in the vicinity of the Alton storage lease. The conclusions of the review reaffirmed that the Stewiacke Formation over the Alton Hydrocarbon Storage Area Lease has all required characteristics to support a gas storage facility.

Alton will continue to apply any new geological knowledge it acquires to the Project and would be pleased to provide the NSUARB and its CA an updated report in this regard. Alton notes that all geological data, including well logs from drilling conducted in 2014, have been submitted to the appropriate Nova Scotia Government department. This point corrects one letter of comment which suggested that well logs and other data have not been provided to government.

### Geologic faults

Some letters of comment assert that there is an unacceptable risk associated with geologic faults in the region. The Shubenacadie Basin is a half graben with the bounding faults north of the Alton facility. These faults are not dramatic events which develop huge offsets during an earthquake, rather they have displacement over long spans of geologic time.

Seismic and well interpretation indicate that the fault system likely began in the Middle Carboniferous, (~330 Ma), and ceased movement towards the end of the period (300 Ma).

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<sup>13</sup> Final Report: Environmental Registration Document for the Proposed Alton Natural Gas Storage Project, 2007, p 46.

### Seismicity and risk of earthquakes

Some letters raised concern with earthquakes. It is notable that this matter was previously addressed in Section 2.7 of the Application for Approval to Construct. By way of background, the Maritime region is located in a stable continental region within the North American Plate and, as a consequence, has a relatively low rate of earthquake activity. When describing plate tectonics, the Maritimes is a trailing edge plate margin, unlike converging, divergent and transform plate boundaries, where the rate and size of seismic activity is directly correlated with plate interaction.

Mr. Grantham quotes a paper which suggests that a dissolution process in Bulgaria "has generated, and continues to generate magnitude 4 earthquakes since the dissolution began". The extensive cavern developments and salt mining in Bulgaria are in a very active seismic area. The Bulgarian developments are near the Vrancea earthquake region which is one of the most active seismic regions in Europe with the deepest earthquakes in the entire Carpathian area.<sup>14</sup> As previously mentioned, the Maritime region is stable and has relatively low earthquake activity.

Concerns about isostatic rebound and its effect on the cavern development are unfounded with respect to the Alton Project. It is true that North America is still feeling the effects of isostatic rebound, (typical rates in North America are 1 centimeter per year or less). However, there is no parallel between isostatic rebound and the "bumps" in coal mines in Springhill, Nova Scotia.<sup>15</sup> There are well-established salt mining operations in Nova Scotia and New Brunswick. The underground workings at each of those locations would dwarf the size of the caverns planned for Alton. If isostatic rebound was a concern, the effects would have already been evident at these well-established mining operations.

### Dolomites

The Stewiacke Formation proposed for cavern development at Alton is suitable for natural gas storage. Although the Stewiacke Formation is time equivalent with other salt deposits in Nova Scotia, such as in Canso as noted in one letter, it cannot be compared to those deposits when considering appropriateness for natural gas storage. Unlike other formations in the area, such as the MacDonald Road and Green Oaks Formations which lie stratigraphically above the Stewiacke Formation, there are no dolomites in the Stewiacke Salt Formation where the Alton caverns will be constructed.

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<sup>14</sup> EQ Report: Vrancea earthquake zone : one of the most active seismic areas in Europe (Carpathians): August 20, 2011

<sup>15</sup> Notley, K.R, "Rock Mechanics Analysis of the Springhill Mine Disaster, October 23, 1958" Mining Science and Technology, 1 (1984) 149-163.

### Subsidence

The issue of subsidence was raised in some letters of comment. Subsidence is a concern with any underground activity including solution mining. The subsidence concerns surround how drainage and surface structures will be affected.

CSA Z341 requires that a subsidence modeling program be implemented and that annual surveys be conducted to measure changes in elevation. Surface subsidence predictions were performed by RESPEC using sophisticated proprietary computer programs. For the Alton site, a maximum subsidence of 3.6 mm was predicted at the end of a 30 year simulation. The predicted subsidence decreases to less than 1.0 mm at a distance of approximately 500 m from the center of the cavern.

RESPEC concluded that values of vertical subsidence are very small and are not expected to have any significant effect on the area drainage or surface structures<sup>16</sup>.

### **2.6 First Nation Consultation**

Alton is committed to building long-term, mutually beneficial working relationships with Indigenous communities while recognizing and respecting aboriginal and treaty rights, individual values and traditions. Through Alton's ongoing engagement with area First Nations, including Sipekne'katik, and the various regulatory processes undertaken to assess the project (including two EAs and an approval to operate the Brine Storage Pond), serious efforts have been made to identify and address the concerns of First Nations with respect to the Alton Project. The commitments made by Alton, coupled with the conditions imposed by the regulators, reflect these efforts.

Sipekne'katik has written to the Board expressing concern about the proposed extension of the Approval to Construct, stating the construction and operation of the caverns will involve mining and suggesting that there is the potential to adversely impact Sipekne'katik's Aboriginal and treaty rights. Similarly, other letters of comment have suggested that impacts on the Mi'kmaq of Nova Scotia have not been appropriately taken into consideration.

Alton notes that the issue of the adequacy of Crown consultation in relation to the project is currently being considered by the Minister of Environment in relation to the issuance of the Industrial Approval to operate the Brine Storage Pond, pursuant to a decision of the Nova Scotia Supreme Court *Sipekne'katik v Nova Scotia (Environment)* 2017 NSSC 23. In the event that Sipekne'katik disagrees with the Minister's determination, Sipekne'katik may elect to continue its appeal to the Supreme Court of Nova Scotia which already has placed before it an extensive record supplemented by affidavit evidence. In Alton's submission, the Board should not undertake a duplicative review in such circumstances.

Alton would propose not to duplicate this record before the Board unless the Board directs.

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<sup>16</sup> RESPEC Geomechanical Evaluation of Alton Natural Gas Storage Cavern No. 1RSI-2613 Final: 2016

Throughout this response and in the original application and associated documents for the Approval to Construct, Alton has identified measures that are in place to ensure the safety of the construction of the storage caverns and limit any impacts. The Nova Scotia Environment (NSE) EAs considered impacts on Aboriginal and treaty rights. Such impacts have not changed as a result of Alton's Extension Request. Alton is not proposing any changes to the Board's Order other than an extension to the Approval to Construct and, as a result, there are no anticipated additional impacts on First Nations associated with the Application currently before the Board. As required in the Board's original Approval to Construct, Alton will continue to comply with all applicable laws and codes and will provide a copy of required federal, provincial and municipal approvals to the Board and CA prior to commencing construction of those portions of the proposed works which would be subject to such permits and approvals.

In addition to the efforts that have been made to identify and address First Nation concerns about the Project, Alton is committed to ongoing engagement with First Nations throughout the life of the Project so that any issues or concerns that may arise can be addressed in a timely manner. Such ongoing engagement has been made a condition of several Project approvals. Additional information on Alton's engagement with Indigenous communities can be found on its website, under Indigenous Relations, as noted in Appendix 1.

Alton remains open to entering into Agreements with Mi'kmaq communities on matters including safety, environmental protection and economic development.

## 2.7 Community Engagement

Contrary to the suggestion that Alton has not engaged with the community, Alton has been engaged in ongoing information sharing and discussions with the community about the Project for many years.

As noted above, two EAs were conducted for the Alton Project. Both assessments included public consultation and involvement components.

Alton has been participating in community meetings and events as well as meeting with local stakeholders, responding to emails and phone calls to address questions about the Project. Examples of local meetings and events are listed in the Public Consultation section of the [FAQ on the Alton website](#). The FAQ itself is based on questions received from members of the community.

A Community Liaison Committee (CLC) was established in November 2015, and is working as an advisory committee, providing practical advice and feedback from the community on the company's activities. The CLC meets regularly and includes representatives of local government, landowners, business and community members. Alton follows the Nova Scotia Department of the Environment's [Guide for the Formation and Operation of a Community Liaison Committee](#). The [Terms of Reference](#) for the Alton CLC are readily available on the Alton website ([www.altonnaturalgasstorage.ca](http://www.altonnaturalgasstorage.ca)) is a transparent platform to share project information that

includes links to regulatory filings (including the two EAs and the 3<sup>rd</sup> party science review led by the Mi'kmaq), and an open invitation to join the contact list for project updates.

## **2.8 Emergency Response Plan (ERP)**

Several comments were made in relation to evacuation and response plans in the event of an emergency. Protecting public safety and the environment are core values of Alton. The purpose of an ERP is to ensure there are documented procedures and training to manage emergency situations should they arise. ERPs are developed to support a given phase of development, ranging from the construction phase to operational phase when a facility is in-service. An ERP is presently in place for use on the Alton Project during active site construction. A second construction plan will be developed to address brining operations and a third plan will be in place prior to the storage facility becoming operational, which is expected in 2022.

Each ERP is intended to provide guidance and direction for responding to unplanned events during a particular stage of the Project. This helps ensure, as the Project activities change, that the ERP is appropriate for the current activities. All personnel will be properly trained on the ERP for the appropriate phase of development. Alton will work with emergency responders, including the local fire departments, to ensure familiarity with facilities and proper training on the ERP.

The ERPs will identify residents who could potentially be impacted by an unplanned event at the Alton facilities. During brining operations and construction activities, there is no situation that could result in a need for a response by residents. The brining operation will be ongoing for 24 to 36 months during which time brine and water are being transported to and from the river location. No natural gas will be present at either site during this time.

Once the caverns have been constructed, an ERP will be put in place that will address the risks and potential impacts for hydrocarbon storage operations. Development of the ERP will include discussions and planning with local first responders. Based on the identified events and the potential impact areas, residents located within these areas will receive relevant communications pertaining to Emergency Response Planning well in advance of the project becoming operational in 2022.

## **2.9 Construction Safety**

Some letters of comment raised concern about noise and safety during the active construction phase of the project. A Health, Safety and Environment Construction Management Plan (HSECMP) is written for the Project and outlines the applicable health, safety and environment (HSE) considerations. As per the Plan, all personnel are expected to demonstrate the necessary positive HSE work behavior to achieve a vision of zero harm to people, property, and the environment. Everyone must demonstrate continuous commitment to the following HSE behaviors:

- stop any work if it is deemed unsafe or could harm the environment;
- ensure hazards are identified, risks assessed and adequate control measures are

implemented;

- proactively participate and follow HSE requirements;
- proceed only if you are adequately qualified, suitably trained, and have sufficient experience to perform tasks;
- report all hazards and incidents.

Regarding truck traffic during active construction, Alton will continue to ask all truck traffic to travel 10km/h below the posted speed limit when traveling to and from the Project sites. While construction of any kind will produce some noise, noise emissions generated during construction and operations will not exceed provincial guidelines at the property boundaries of the site.<sup>17</sup>

## **2.10 Gas Facility and Pipeline Safety**

Some letters of comment raised questions regarding the safety of Alton's planned facilities and pipeline. Surface facilities will be designed and constructed in accordance with the requirements of ASME Standard B31.3, Process Piping and the appropriate sections of the ASME Boilers and Pressure Vessels Code. Pipelines will be designed and constructed in accordance with CSA Standard Z662, Oil and Gas Pipeline Systems, which is the national pipeline safety standard in Canada.

The gas facility will be designed with redundant safety controls and emergency shutdown safety valves. The gas facility will have fire detection, gas monitors, isolation systems, emergency shut-down devices and automated fire extinguishers. All gas piping and equipment will be pressure tested and all gas pipeline welding will be x-rayed. Clean, processed and market-ready natural gas from the Maritimes & Northeast Pipeline system will be used for storage in the salt caverns. There are no liquid petroleum products involved in the Project.

Prior to the start of construction, Alton will be required to apply to NSUARB for an Approval to Construct for its pipeline and compression facilities. Such reviews will assure the safety of this infrastructure.

## **2.11 Compliance with monitoring plan requirements and federal Fisheries Act**

While beyond the scope of the NSUARB review of the Extension Request, several of the letters incorrectly assert that Alton is not in compliance with the "Fish and Fish Habitat" sections of its provincial Environment Assessment, has not appropriately developed a monitoring plan, or is not in compliance with the federal *Fisheries Act*.

Alton must be in compliance with all federal, provincial and local requirements, including all provisions of the *Fisheries Act*. The Project has been the subject of considerable review by regulators and expert government departments. In particular, DFO has said that as designed,

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<sup>17</sup> Final Report: Environmental Registration for the Proposed Alton Natural Gas Storage Project (2007), p. 23

and with mitigation in place, the Project is not likely to contravene the fish habitat protection provisions of the Fisheries Act, or the Species At Risk Act.<sup>18</sup>

The Project's river monitoring plan, which was required by the terms and conditions of the NSE Minister's EA Approval, was finalized based on input and or direction from:

- federal and provincial departments and regulators, including Environment and Climate Change Canada (ECCC), DFO, NSE and the Nova Scotia Office of Aboriginal Affairs;
- expert engineering and biological consultant advice;
- the results of a Mi'kmaq-led independent science review in 2015; and,
- biological research undertaken by Dalhousie University, Bible Hill Campus, over the past 10 years.

The monitoring plan is readily available on the Alton website, along with presentations and other background information.

As required by condition 2.1(b) of the NSE Minister's EA Approval, the monitoring plan was shared by Alton with ECCC for its review and comment.

The monitoring plan requires salinity to be within naturally occurring background levels for the Shubenacadie River Estuary within 5 metres of either side of the mixing area in Alton's engineered channel. The monitoring plan also requires Alton to undertake laboratory toxicity testing on Striped Bass once brining operations have commenced. Although the brining has not yet started, initial toxicity testing by researchers at Dalhousie University using simulated brine and salt core samples from the Alton site has taken place.

The tests to date confirm project assumptions that, as designed, the Project will not impact fish or fish habitat. Information about the toxicity testing can be found on the Alton website The toxicity testing will continue when the brining process begins.

Some work will be required at the river site to remove silt which has built-up in the mixing channel. This build-up of silt occurred because the solution mining process, which involves the flow of water in and out of the channel, has not yet started. Some letters of comment suggest that Alton is either not fully aware of this matter or does not intend to work with regulators to develop plans to remove the silt. To the contrary, Alton has discussed the matter with DFO and will develop a plan which meets regulatory requirements prior to solution mining activities. The removal of mud and silt through the use of pumping equipment or dredging is common practice in Nova Scotia and all marine environments. Alton will meet all regulatory requirements and environmental protection best practices in this regard.

## **2.12 Public good and impact on the environment as it relates to climate change**

While beyond the scope of the Board's review of the Extension Request, some letters of comment note that the natural gas stored at Alton is primarily intended for the U.S. market and

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<sup>18</sup> DFO letter to Alton Natural Gas Storage LP, November 5, 2010.

question the need and benefit of natural gas for the Province. To the contrary, the natural gas in the two storage caverns planned initially at Alton is for the growing number of natural gas customers in Nova Scotia. Additional cavern development to support industrial, commercial and residential expansion will depend on market demand.

The Alton Project will help sustain and grow Nova Scotia's competitiveness, reduce reliance on heavy oil and coal, support energy affordability and increase security of supply during winter peak days. The Project will also help ensure that residential, commercial, and industrial customers can access reasonably priced energy supplies.

Natural gas is used today by a wide range of customers in Nova Scotia including: many of Nova Scotia's largest industries and employers; commercial and manufacturing businesses; the majority of the Province's universities; publicly-funded institutions like hospitals and schools; and thousands of homes. By converting to natural gas, customers in Nova Scotia have collectively saved hundreds of millions of dollars on their energy bills, with further expected savings once the Alton Project is in operation.

The Project will invest more than \$130 million in rural Nova Scotia and has invested approximately \$70 million to date. Since 2014, more than 70 Nova Scotia companies have provided goods, services and labour to Alton. The first phase of storage service for two caverns, consisting of approximately 4 Bcf of storage, is expected to commence in 2022. The customer for the two caverns is Heritage Gas, the provincial natural gas distributor in Nova Scotia.

### **2.13 Natural gas pipeline and market ready natural gas**

While beyond the scope of the NSUARB's review of this Extension Request, some letters of comment refer to the natural gas pipeline and market ready natural gas. Natural gas will move to and from the facility via a pipeline connected to the Maritimes & Northeast Pipeline system. This pipeline project has been approved, with conditions, via a provincial EA. Contrary to some points raised in letters of comment, Alton is active in meeting its pipeline EA conditions and is in regular contact with provincial regulators in this regard. Detailed design and fieldwork is underway. Alton expects to apply for its Approval to Construct to the Board for the pipeline in the first half of 2019. The pipeline will undergo a safety review before construction can take place and before it can be commissioned for operation.

Only market-ready natural gas (methane) will be stored at the Alton cavern facility. This means that there is no requirement for further processing to remove impurities in the product. In the caverns, the natural gas that will be stored will be in a compressed form, not liquid form (LNG), as some letters suggest.

### **3.0 Conclusion**

Although significant progress has been made on the Project since the Approval to Construct was issued, Alton has faced delays. The in-service date for cavern storage is 2022 and Alton's Extension Request to the NSUARB reflects the need for additional time to complete cavern development.

After extensive expert review, including the detailed review of the Board appointed CA, the Board previously determined that it was appropriate to issue an Approval to Construct, subject to 13 conditions and 28 compliance requirements. Given that Alton is not proposing to alter the substantive conditions attached to the original Approval to Construct, including those that involve the ongoing oversight of the CA, an extension of the Approval to Construct will not have any additional impact on public safety. Alton will continue to meet all conditions imposed as well as all related legal requirements. Alton submits that the Board should grant Alton's Extension Request.

\* \* \*

### Appendix 1: Online resources related to the Alton project

- The NSE Environmental Assessment Registry which categorizes the registration documents, and related regulatory decisions, for two EAs: the EA for the Proposed Alton Natural Gas Storage Project (Alton EA (2007)), and the EA for the Proposed Alton Natural Gas Pipeline. Both EAs were approved, with conditions, by the Nova Scotia Minister of Environment. The documents include detailed environmental, safety and socio-economic analysis.
- NSUARB website which houses Alton's 2013 Application for its Approval to Construct, related information requests from the CA and Alton's responses, the CA's Certification Report and the Board's subsequent decision to grant the approval, which includes 13 conditions and 28 compliance requirements.
- Letters from the Nova Scotia Minister of Environment which previously dismissed six Appeals of the Industrial Approval issued to Alton to Operate a Brine Pond. The letters address many of the same matters which were raised in the letters of comment on the Extension Request.
- The Kwilmu'kw Maw-klusuagn Negotiation Office (KMKNO) website provides information on the KMKNO review of the Alton Project as it relates to the marine environment, which was done on behalf of the Assembly of Nova Scotia Mi'kmaq Chiefs. This included a third-party review by Conestoga Rovers and Associates and a Mi'kmaq Peer Review Committee.
- The Alton website provides extensive resources, including a Frequently Asked Questions section on a range of matters including safety, environment, community engagement and socio-economic matters as well as an Indigenous Relations section. In addition, the website includes links to regulatory documents such as the approved river monitoring plan.
- The Nova Scotia Department of Energy and Mines website provides resources and links to relevant material, including the *Hydrocarbon Storage Act*, the Code of Practice, and FAQs on natural gas storage.

**Paul, Tyra**

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**From:** Robichaud, Blake M <Blake.Robichaud@novascotia.ca>  
**Sent:** Monday, January 14, 2019 2:47 PM  
**To:** Tim Church; MacPhail, Helen; McNally, Kelly D; MacKinnon, David S; Cameron, Melanie J; Bird, Michael W; O'Halloran, Bill W; Nikoloyuk, Jordan; Weseloh McKeane, Sean; Bekkers, Kevin F; McLean, Mark G; Dera, Beata E; Rillie, Claire Z; MacKenzie, Tanya L; Johnson, Kathleen; michael.hingston@canada.ca; [REDACTED] Cassidy, Sean; Bob Rutherford; Tupper, Ann; [REDACTED] Roberts, Lorrie A; Gillis, Emily  
**Subject:** RE: Alton Gas One Window

Good Afternoon,

For those who may need to join tomorrow's one window meeting by phone, the conference information is as follows:

Toll-free dial-in number:	1-844-220-3467
Local dial-in number:	902-566-0098
Conference ID:	[REDACTED]

**Blake Robichaud**  
 Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.478.9063

-----Original Appointment-----

**From:** Robichaud, Blake M  
**Sent:** December 28, 2018 12:44 PM  
**To:** Robichaud, Blake M; Tim Church; Helen MacPhail (Helen.MacPhail@novascotia.ca); McNally, Kelly D; MacKinnon, David S; Melanie J Cameron (Melanie.Cameron@novascotia.ca); Bird, Michael W; O'Halloran, Bill W; Jordan Nikoloyuk (Jordan.Nikoloyuk@novascotia.ca); Sean Weseloh McKeane (Sean.WeselohMcKeane@novascotia.ca); Bekkers, Kevin F; Mark.McLean@dfo-mpo.gc.ca; Dera, Beata E; Rillie, Claire Z; MacKenzie, Tanya L; Johnson, Kathleen; michael.hingston@canada.ca  
**Cc:** [REDACTED] Cassidy, Sean; Bob Rutherford; Tupper, Ann; [REDACTED] Roberts, Lorrie A; Gillis, Emily  
**Subject:** Alton Gas One Window  
**When:** January 15, 2019 10:00 AM-12:00 PM (UTC-04:00) Atlantic Time (Canada).  
**Where:** RM-HLFX-CentennialBld-DOB-06FL-Mtg-6D-VC

Good Morning and Happy New Year,

This meeting will take place at the following location:

Room 6D  
 Nova Scotia Department of Business  
 6<sup>th</sup> Floor Centennial Building

1660 Hollis Street, Halifax

There is also an entrance off Granville Street at the corner of Sackville and Granville. Room 6D is off the main hallway from the elevators, at the north end of the building opposite the men's washroom. If you arrive early there is a reception area with seating at the opposite end of the floor. I will circulate conference call information closer to the date.

**Blake Robichaud**  
Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.424.0909 | 902.478.9063 (c)

Good Afternoon,

We are setting up this 'one window' meeting regarding the Alton Gas project per correspondence from Michael Bird earlier this month. Please let me know if there is anyone else from your department that should be included on this appointment.

Tim, can you also please provide me with the names and emails of any other AltaGas representatives that you would like added to this appointment?

I am waiting for a room to be released and will send an updated appointment with the specific location at that time.

Thank you,

**Blake Robichaud**  
Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.424.0909 | 902.478.9063 (c)

**Paul, Tyra**

---

**From:** Robichaud, Blake M <Blake.Robichaud@novascotia.ca>  
**Sent:** Friday, January 18, 2019 3:08 PM  
**To:** Tim Church; MacPhail, Helen; McNally, Kelly D; MacKinnon, David S; Cameron, Melanie J; Bird, Michael W; O'Halloran, Bill W; Nikoloyuk, Jordan; Weseloh McKeane, Sean; Bekkers, Kevin F; McLean, Mark G; Dera, Beata E; Rillie, Claire Z; MacKenzie, Tanya L; Johnson, Kathleen; michael.hingston@canada.ca  
**Cc:** Cassidy, Sean; Bob Rutherford; Tupper, Ann; [REDACTED]  
Roberts, Lorrie A; Gillis, Emily  
**Subject:** RE: Alton Gas One Window  
**Attachments:** Regulators December Jan 15.pdf

Good Afternoon,

Please find attached the slide deck from Tuesday's meeting. Minutes will be circulated early next week.

Thank you,

Blake Robichaud  
Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.478.9063

**From:** Robichaud, Blake M

**Sent:** January 16, 2019 4:28 PM

**To:** Tim Church [REDACTED]; Helen MacPhail (Helen.MacPhail@novascotia.ca)  
<Helen.MacPhail@novascotia.ca>; McNally, Kelly D <Kelly.McNally@novascotia.ca>; MacKinnon, David S  
<David.MacKinnon2@novascotia.ca>; Melanie J Cameron (Melanie.Cameron@novascotia.ca)  
<Melanie.Cameron@novascotia.ca>; Bird, Michael W <Michael.Bird@novascotia.ca>; O'Halloran, Bill W  
<Bill.OHalloran@novascotia.ca>; Jordan Nikoloyuk (Jordan.Nikoloyuk@novascotia.ca)  
<Jordan.Nikoloyuk@novascotia.ca>; Sean Weseloh McKeane (Sean.WeselohMcKeane@novascotia.ca)  
<Sean.WeselohMcKeane@novascotia.ca>; Bekkers, Kevin F <Kevin.Bekkers@novascotia.ca>; 'Mark.McLean@dfo-  
mpo.gc.ca' <Mark.McLean@dfo-mpo.gc.ca>; Dera, Beata E <Beata.Dera@novascotia.ca>; Rillie, Claire Z  
<Claire.Rillie@novascotia.ca>; MacKenzie, Tanya L <Tanya.MacKenzie@novascotia.ca>; Johnson, Kathleen  
<Kathleen.Johnson@novascotia.ca>; michael.hingston@canada.ca

**Cc:** Cassidy, Sean [REDACTED] Bob Rutherford  
[REDACTED] Tupper, Ann <Ann.Tupper@novascotia.ca>; [REDACTED] Roberts, Lorrie  
A <Lorrie.Roberts@novascotia.ca>; Gillis, Emily [REDACTED]  
**Subject:** RE: Alton Gas One Window

Good Afternoon,

Thank you all for a productive meeting yesterday. Minutes will be circulated in the next week or so. In the meantime, the security item was flagged for an immediate follow-up meeting and Helen has already set this up for next week.

Blake Robichaud  
Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.478.9063

-----Original Appointment-----

**From:** Robichaud, Blake M

**Sent:** December 28, 2018 12:44 PM

**To:** Robichaud, Blake M; Tim Church; Helen MacPhail ([Helen.MacPhail@novascotia.ca](mailto:Helen.MacPhail@novascotia.ca)); McNally, Kelly D; MacKinnon, David S; Melanie J Cameron ([Melanie.Cameron@novascotia.ca](mailto:Melanie.Cameron@novascotia.ca)); Bird, Michael W; O'Halloran, Bill W; Jordan Nikoloyuk ([Jordan.Nikoloyuk@novascotia.ca](mailto:Jordan.Nikoloyuk@novascotia.ca)); Sean Weseloh McKeane ([Sean.WeselohMcKeane@novascotia.ca](mailto:Sean.WeselohMcKeane@novascotia.ca)); Bekkers, Kevin F; [Mark.McLean@dfo-mpo.gc.ca](mailto:Mark.McLean@dfo-mpo.gc.ca); Dera, Beata E; Rillie, Claire Z; MacKenzie, Tanya L; Johnson, Kathleen; [michael.hingston@canada.ca](mailto:michael.hingston@canada.ca)

**Cc:** [REDACTED] Cassidy, Sean; Bob Rutherford; Tupper, Ann; [REDACTED] Roberts, Lorrie A; Gillis, Emily

**Subject:** Alton Gas One Window

**When:** January 15, 2019 10:00 AM-12:00 PM (UTC-04:00) Atlantic Time (Canada).

**Where:** RM-HLFX-CentennialBld-DOB-06FL-Mtg-6D-VC

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Blake Robichaud  
Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.424.0909 | 902.478.9063 (c)

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I am waiting for a room to be released and will send an updated appointment with the specific location at that time.

Thank you,

**Blake Robichaud**  
Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.424.0909 | 902.478.9063 (c)



## Project Update

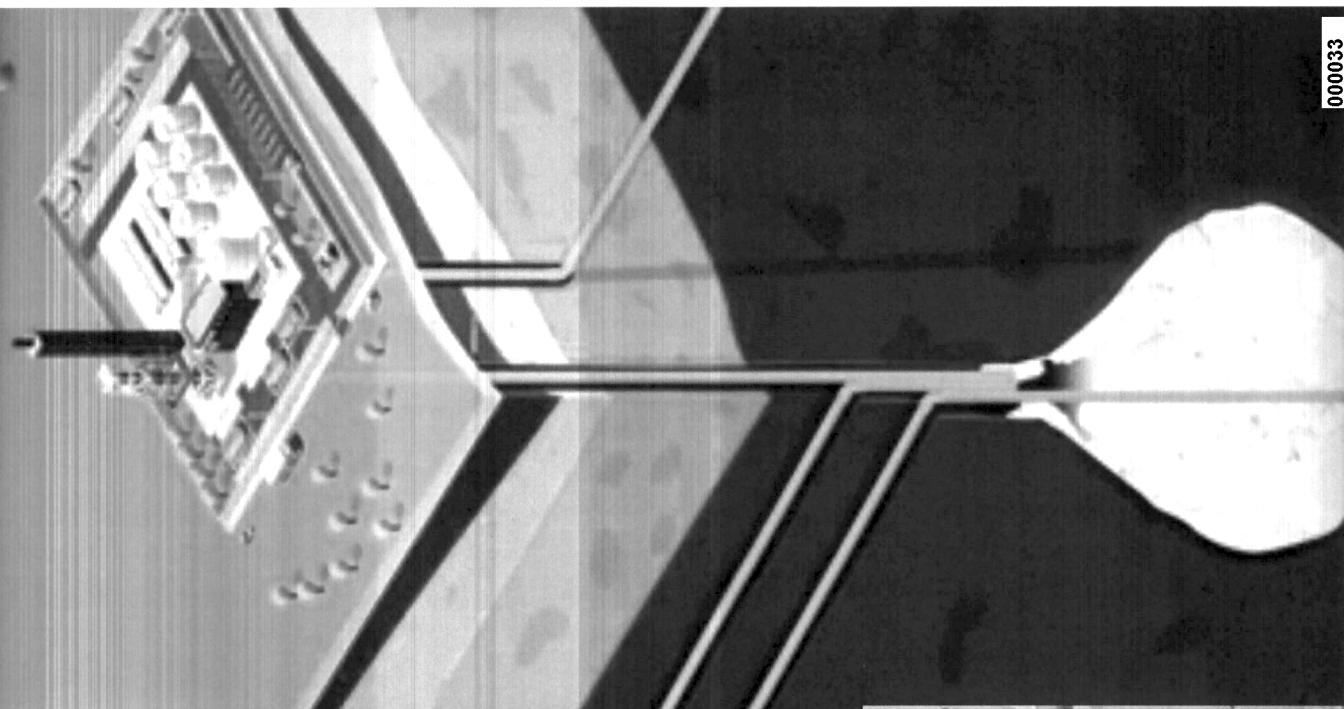
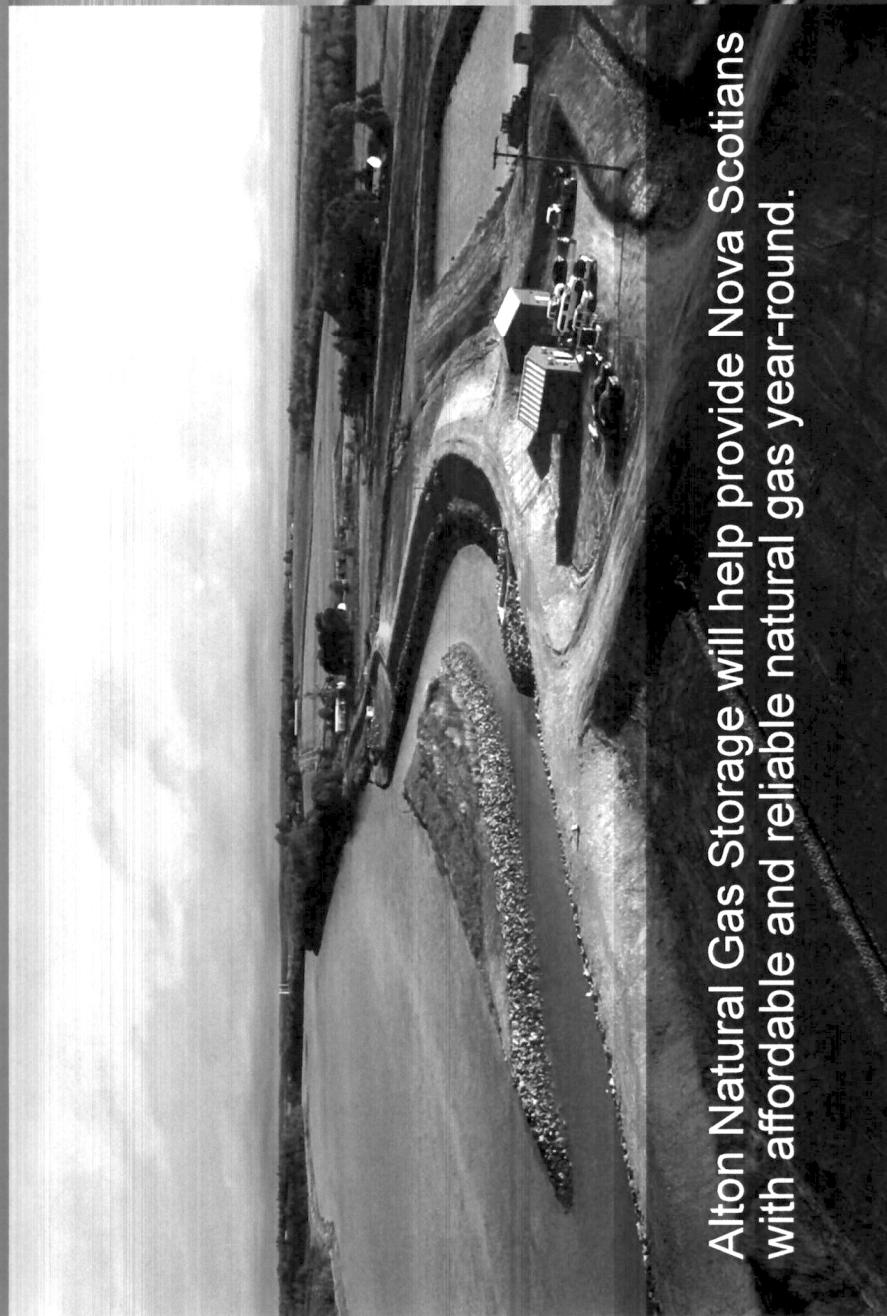
**January 15, 2019**

# **Project Update - Agenda**

1. General update
2. Estuary
3. Gravity Survey
4. Pipeline
5. Consultation – Office of Aboriginal Affairs
6. Other matters / roundtable discussion

## Alton Natural Gas Storage

Alton Natural Gas Storage will help provide Nova Scotians with affordable and reliable natural gas year-round.

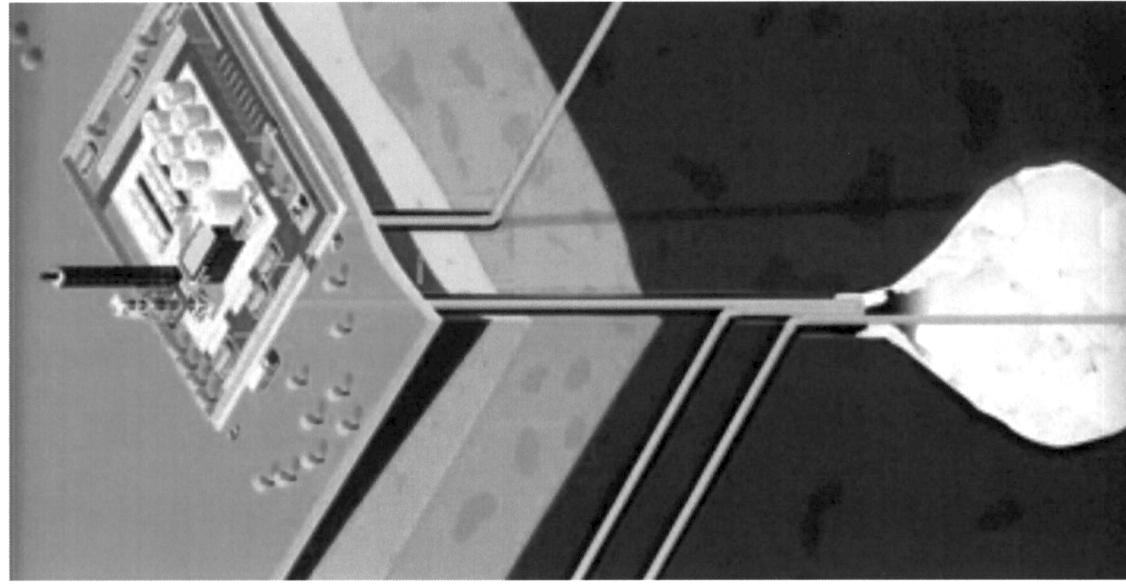


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# Alton Natural Gas Storage Project

## Overview

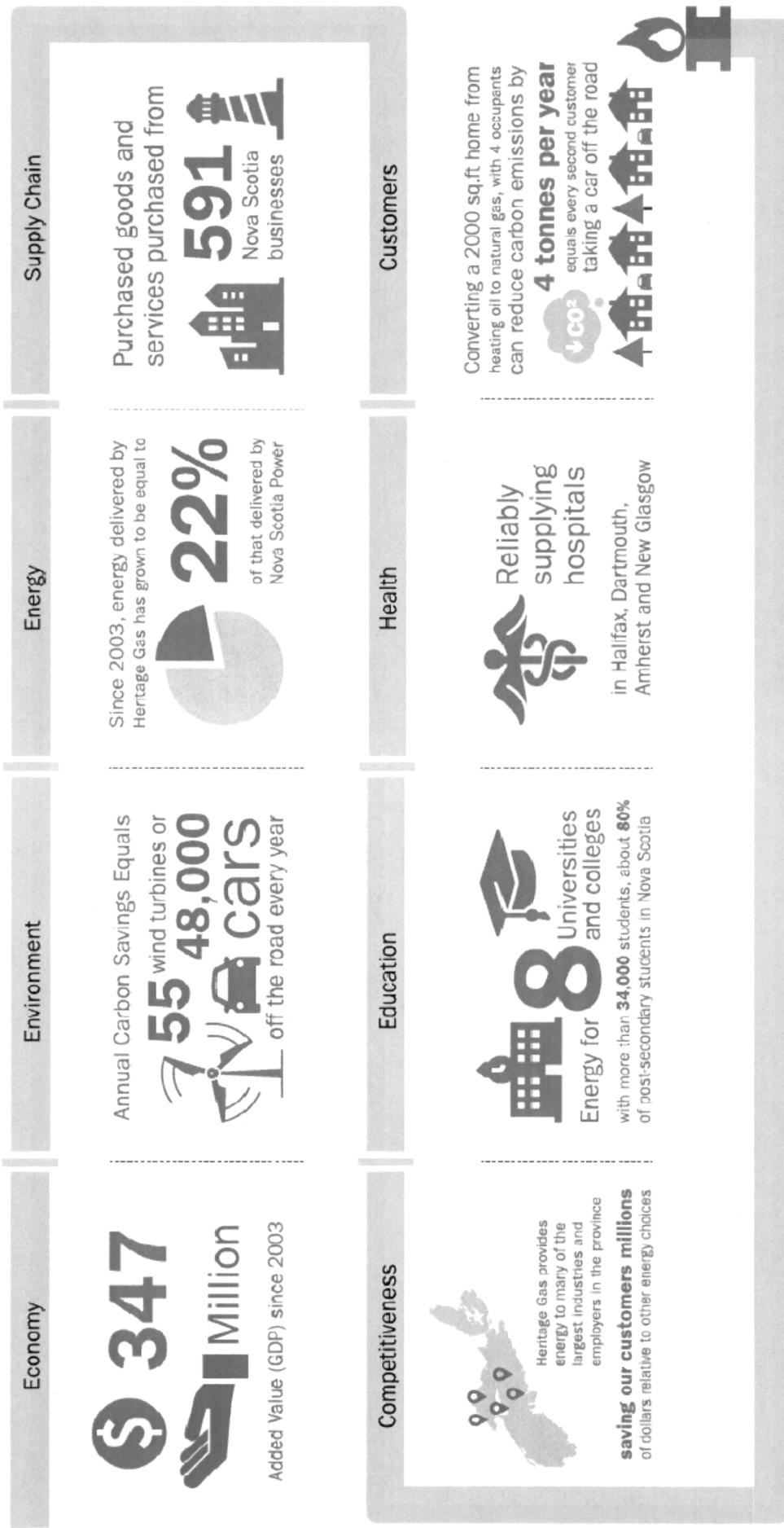
- 2 natural gas storage caverns initially
- Depth of approximately 1,000 m
- Ancient salt formation
- Solution mining process “brining”
- NS has among highest natural gas pricing in North America
- Storage provides consumer savings, helps reduce GHGs, supports renewables
- Will help ensure energy diversity and improve security of supply
- Indigenous partnerships developing
- Storage in-service date of 2022



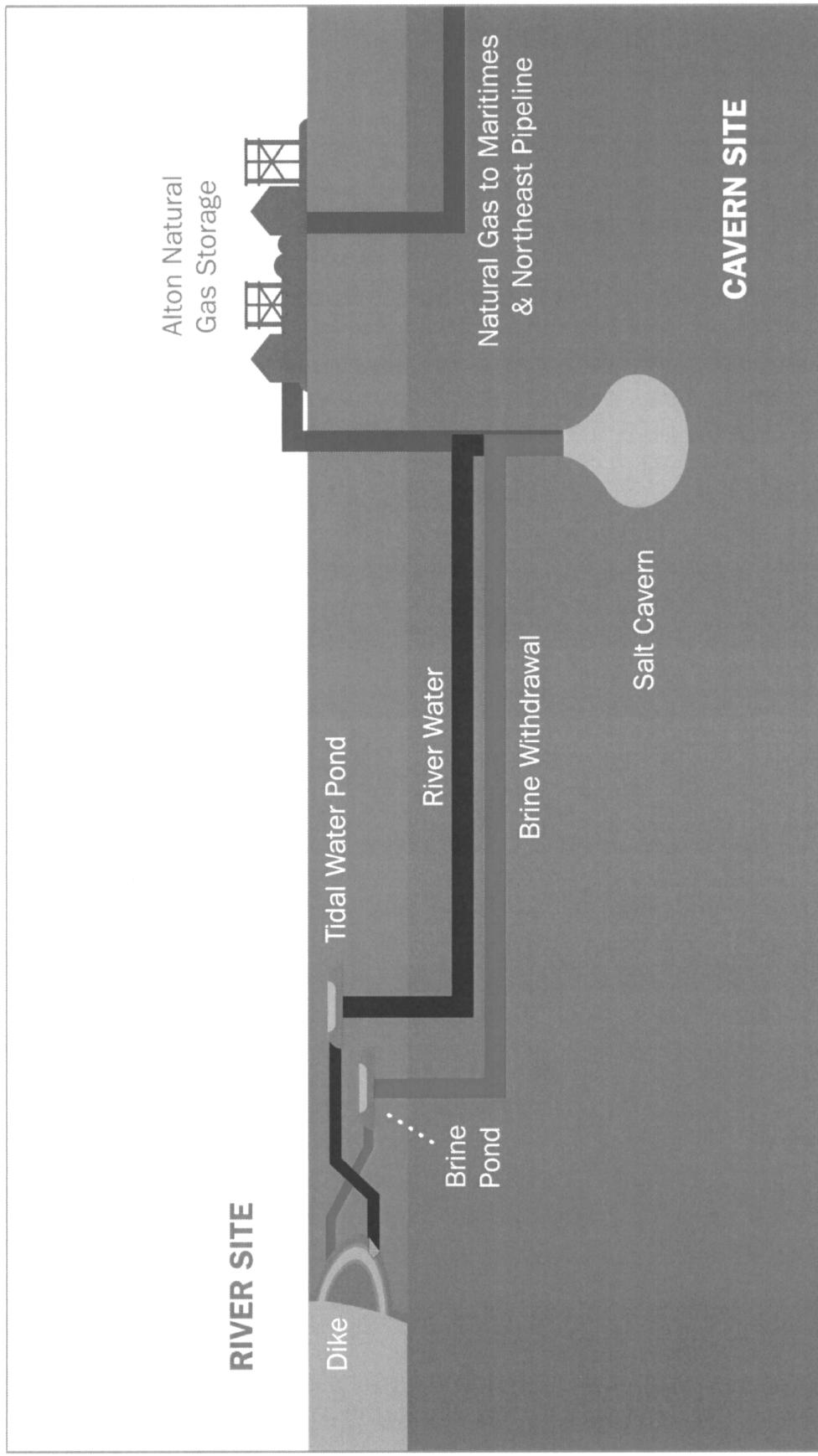
## *Examples of Natural Gas Users in Nova Scotia*

# NATURAL GAS IN NOVA SCOTIA

## Making Things Happen



# Alton Natural Gas Storage Project

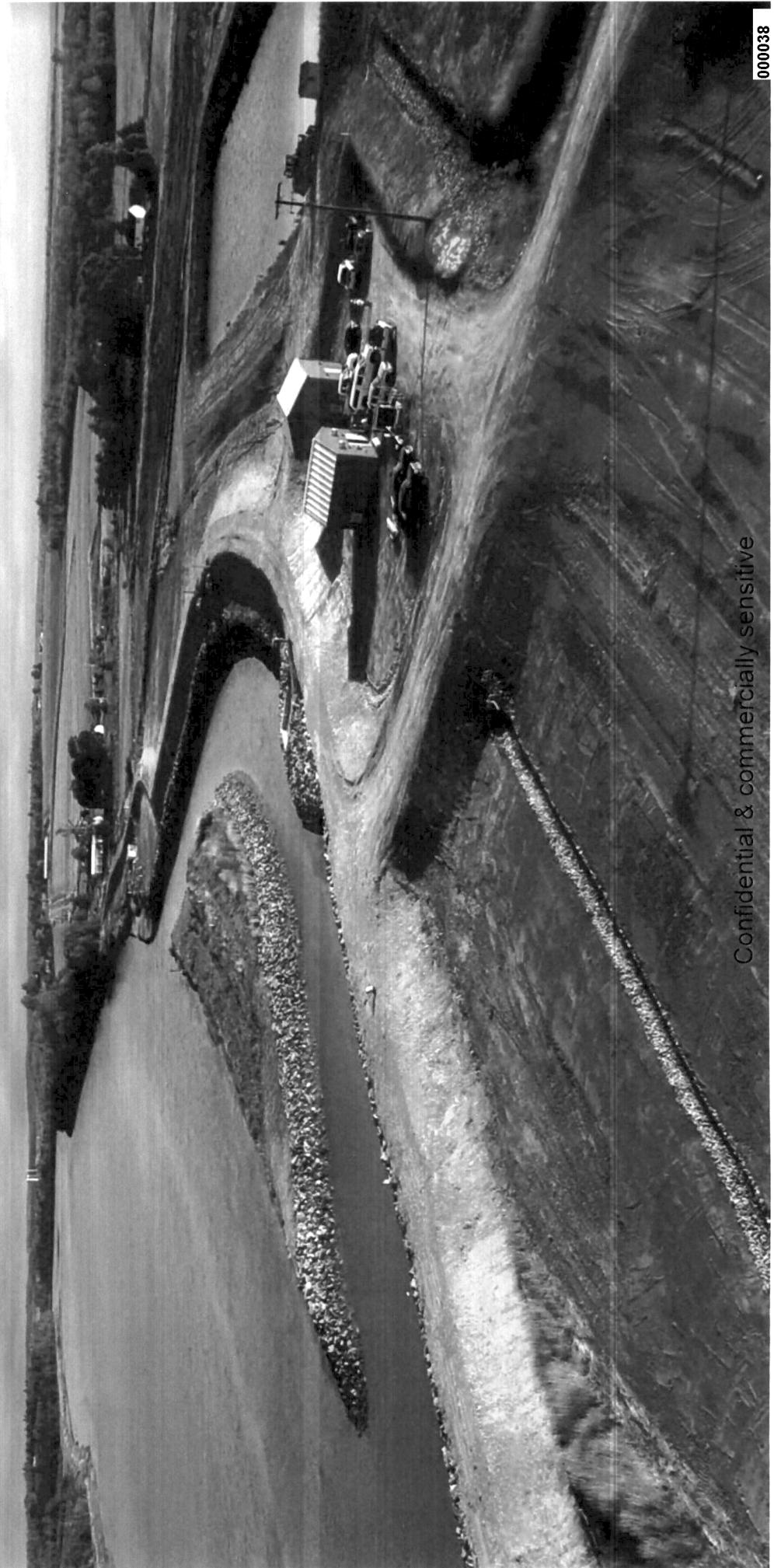


## Key components of Alton Natural Gas Storage Project

- River site
- Natural Gas Storage Cavern
- Natural Gas Pipeline to Maritimes & Northeast Pipeline

Confidential & commercially sensitive

## River site



Confidential & commercially sensitive

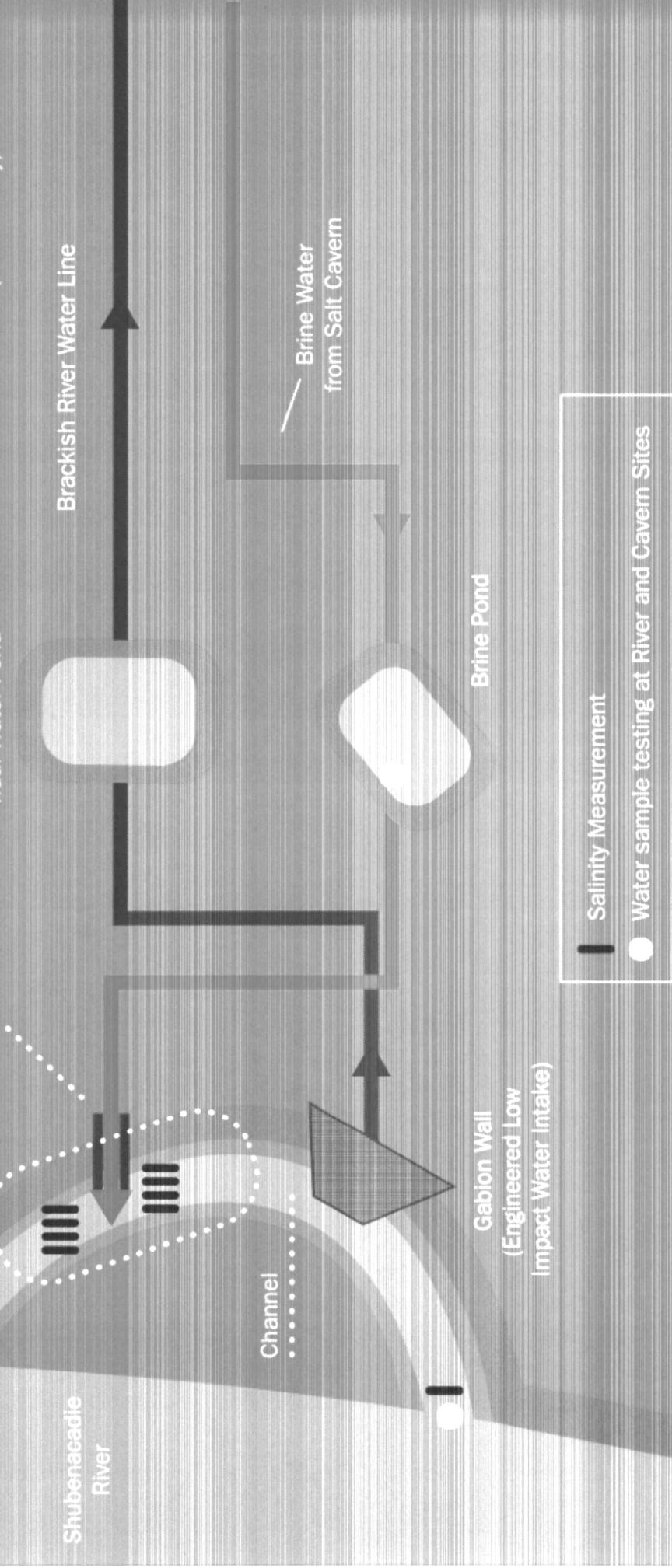
000038

# Monitoring points

## RIVER SITE

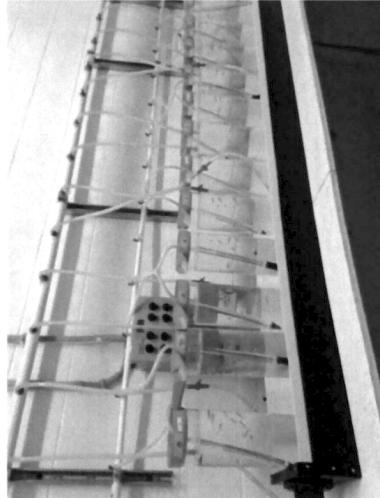
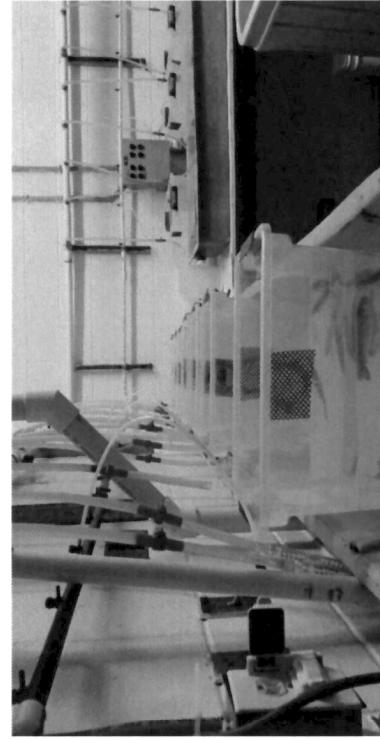
**Within 5m of Brine Line:**  
a max of 7 ppt above background  
to a max of 28 ppt

Cavern Site (12km away)



# Toxicity testing

- Approved toxicity testing protocol
  - 2016-18 at Dalhousie University laboratory
- Confirms Striped Bass are highly tolerant to salinity
- 1 hour  $LC_{50}$  was 58.4 ppt for yolk-sac larvae, 40.6 ppt for 5-10 days post hatch (dph) larvae, 48.4 dph larvae, 52.5 ppt for early juveniles (20-60 mm for length, fl) and 58.4 ppt for juveniles (120mm FL).
  - *Report on Methodology development for hyper-saline toxicity tests on Striped Bass (*Morone saxatilis*) 2016/2017, July: 2018, Dalhousie University*



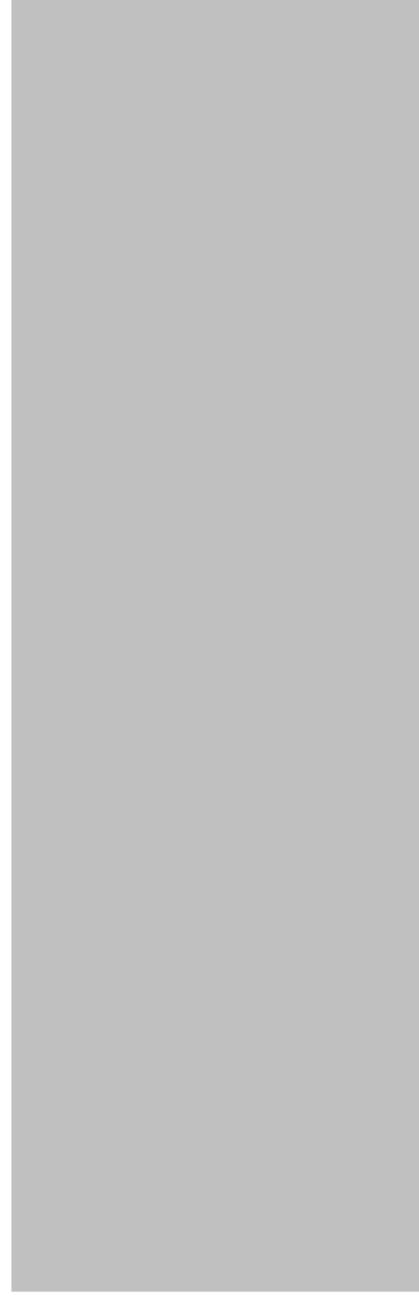
Confidential & commercially sensitive

## Proposed fish barrier concept

Screened fish barrier with aeration provides another layer of protection

- Completely encases the brine release area in the channel

- Allows mixing to take place without presence of fish



– – – – –

**Pages 42 to / à 43  
are withheld pursuant to section  
sont retenues en vertu de l'article**

**20(1)(c)**

**of the Access to Information Act  
de la Loi sur l'accès à l'information**

# Gravity Survey vs Drilling and Seismic

Drilling wells give us the best subsurface information

- very expensive
- in storage projects they can become a liability
- locations affect cavern spacing requirements

Seismic

- very expensive
- somewhat intrusive, (cutting lines, drilling blast holes, blasting)
- interpretive

Gravity

- inexpensive compared to seismic and drilling
- unintrusive, (no cutting or disturbance required)
- also interpretive but raw data can be calibrated

# Gravimeter

## Survey Basics

- Survey is tied into existing gravity monuments
- All readings are time stamped
- Apply tide state into gravity readings
- Produces raw gravity data at each station



# Field Operations

## Field Operations

- Need accurate elevation information
- Sophisticated GPS equipment
- Equipment is delicate
- Average of 15 stations per day at 200 m spacing



**Pages 47 to / à 49  
are withheld pursuant to section  
sont retenues en vertu de l'article**

**20(1)(c)**

**of the Access to Information Act  
de la Loi sur l'accès à l'information**

**Paul, Tyra**

**From:** MacPhail, Helen <Helen.MacPhail@novascotia.ca>  
**Sent:** Monday, January 21, 2019 11:12 AM  
**To:** McNally, Kelly D; MacKinnon, David S; Cameron, Melanie J; Bird, Michael W; O'Halloran, Bill W; Nikoloyuk, Jordan; Weseloh McKeane, Sean; Bekkers, Kevin F; McLean, Mark G; Dera, Beata E; Rillie, Claire Z; MacKenzie, Tanya L; Johnson, Kathleen; Tupper, Ann; michael.hingston@canada.ca; Zwicker, Stephen (EC); Milton, Randy Gordon  
**Cc:** Robichaud, Blake M; Bowen, Lynn A  
**Subject:** FW: Alton Gas Pipeline - Commence Work  
**Attachments:** Environmental Assessment Approval\_10january2019.pdf; Alton Approvals Status December 2018.docx; EA Conditions 2019.docx

Hello All,

Here is the information Tim Church provided regarding the "Commencement of Work" for your review. As discussed at the meeting all the EA conditions that include "prior to clearing " will need to be met, as well as obtaining all permissions from government departments eg. Lands and Forestry. Please let me know if you have any comments by January 28, 2019.

Thank you,  
Helen

---

**From:** Tim Church [REDACTED]  
**Sent:** Friday, January 11, 2019 2:49 PM  
**To:** MacPhail, Helen <Helen.MacPhail@novascotia.ca>  
**Cc:** Bishop, Ivan [REDACTED] Cassidy, Sean [REDACTED]  
**Subject:** Alton Gas Pipeline - Commence Work

Hi Helen,

Further to our discussions regarding commencement of construction, Alton offers the attached description of "Commencement of Work" for your consideration. We would be happy to discuss this further at your convenience.

Thank you

**Tim Church**  
President, Alton Natural Gas Storage &  
Vice-President, Stakeholder Relations

**AltaGas Ltd.**  
[REDACTED] mobile [REDACTED] <http://altagas.ca>

This communication is directed in confidence solely to the named recipients, and may not otherwise be distributed, copied or disclosed. If you have received this email in error, please notify us immediately and delete this communication.

January 10, 2019

- **Environmental Assessment Approval**

**Condition 1.3: "Commence Work"**

Alton Natural Gas Storage is finalizing the

Once permission is received from DNR to proceed, the next step that we consider to be "Commence Work" will be a crew of [REDACTED] to hand cut a 1m wide centerline the length of the route, using chain saws and other cutting equipment. Any cutting activity would be conducted outside of the breeding season for most migratory and resident birds (i.e. between March 31 to August 31<sup>st</sup>)

A vegetated buffer zone would be maintained at all wetland and watercourse crossing locations, with minimal disturbance along the centerline through this area. The hand cutting of centerline would be follow by a detailed topographic survey. The detailed topographic survey consists of center line and [REDACTED] data collection @ 10-20m intervals along the route to confirm the details of the [REDACTED] [REDACTED] in regards to vertical/vertical bends and directional [REDACTED] locate all flagged delineated wetlands and detailed surveys of all water course crossings (this information would be used for the generation of [REDACTED] alteration permit applications as applicable); detailed survey of [REDACTED] [REDACTED] crossings and detailed survey of the [REDACTED] location at the [REDACTED] connection.



## Environmental Assessment Approval

Approval Date: *Original Dated May 21, 2013*

### Alton Natural Gas Pipeline Project

Alton Natural Gas Storage LP, Proponent  
Colchester County, Nova Scotia

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### 2018 Follow-up January 2019

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The Alton Natural Gas Pipeline Project (the “Undertaking”), proposed by Alton Natural Gas Storage LP (the “Approval Holder”) near Alton, Colchester County, Nova Scotia is approved pursuant to Section 40 of the *Environment Act* and Section 18(a) of the *Environmental Assessment Regulations*. This Approval is subject to the following conditions and obtaining all other necessary approvals, permits or authorizations required by municipal, provincial and federal acts, regulations and by-laws before commencing work on the Undertaking. It is the responsibility of the Approval Holder to ensure that all such approvals, permits or authorizations are obtained before commencing work on the Undertaking.

This Environmental Assessment Approval is based upon the review of the conceptual design, environmental baseline information, impact predictions, and mitigation presented in the Registration Document and Focus Report.

---

#### Terms and Conditions for Environmental Assessment Approval

1.0 General Approval	Status/Comments
1.1 The Environmental Assessment Approval for the Undertaking is limited to the Undertaking as described in the Environmental Assessment Registration Document and Focus Report.	<b>Ongoing.</b>
1.2 Expansion, modification or relocation of any aspect of the Undertaking from that proposed in the registration information must be submitted to the Environmental Assessment Branch for review and may require an environmental	<b>Ongoing</b>  Following a review of the Alton Natural Gas Pipeline Project Proposed Re-Alignment One (January 7, 2015), it has been determined that no further environmental assessment (EA) is required, with the proviso that an archaeological impact assessment, as well as physical assessments for wetlands and watercourses are completed for the new alignment.

assessment (EA).	<p>Alton conducted some fieldwork in the summer 2015 but to date has not yet completed the archaeological assessment of the alternate pipeline routes</p> <ul style="list-style-type: none"><li>• Archaeological impact study<ul style="list-style-type: none"><li>○ 2 days (outstanding)</li><li>○ If high potential areas are identified they will be shovel tested under a separate permit</li></ul></li></ul> <p>Permit from CCH issued.</p> <p>Oct 23, 2018, Alton indicated re-alignment two is being proposed to skirt a land parcel.</p>
1.3 The Approval Holder must, within two years of the date of issuance of this Approval, commence work on the Undertaking unless granted a written extension by the Minister.	<p>Work has not yet begun on the pipeline.</p> <p><b>Extension granted to May 21, 2019</b></p> <p>“commence work” means, with respect to an undertaking, to begin construction or site preparation activity for an undertaking or any part of an undertaking;</p> <p>A site inspection was conducted by NSE (ICE division) on Dec. 10, 2015 at the start and end of the pipeline (based on coordinates provided by the consultant). No work had commenced based on the site inspection to the 2 locations and based on information from the consultant.</p> <p>Oct 23, 2018, Alton and NSE discussed commencement and which approvals/permits would be required. NSE suggested Alton provide a description of the commencement work along with which EA conditions and permits/approvals will be required for this work.</p>
1.4 The Approval Holder must not transfer, sell, lease, assign or otherwise dispose of this Approval without the written consent of the Minister. The sale of a controlling interest of a business or a transfer of an approval from a parent company to a subsidiary or an affiliate is deemed to be a transfer requiring consent.	<p>A transfer has previously occurred in December 2013. During this transfer, all of the equity interests of Veresen Energy Infrastructure in both the limited partner and the general partner was acquired by AltaGas Natural Gas Storage Ltd.</p> <p>This condition is <b>on-going</b></p>
1.5 The Approval Holder must implement all mitigation	<b>Ongoing</b>

and commitments in the Registration Document and Focus Report, unless approved otherwise by Nova Scotia Environment (NSE).	
1.6 The Approval Holder must provide a report to NSE's Environmental Assessment Branch one year following construction of the Undertaking. The report must include, but not be limited to, site development, mitigation plans, monitoring results, and compliance with the Terms and Conditions of the EA Approval.	One year after construction.
<b>2.0 Project Location and Route Selection</b> 2.1 Approval is based on the "Original Alignment" of the pipeline as described in the EA Registration Document and Focus Report.	<b>Ongoing.</b>
<b>3.0 Project Infrastructure and Activities</b> 3.1 Prior to clearing and/or construction, the Approval Holder must submit the Environmental Management Plan (EMP) for review by Department of Fisheries and Oceans (DFO) and review and approval by NSE.	<b>Alton to submit EMP prior to commencement – would likely take 2 to 3 weeks to review.</b>
3.2 The Approval Holder must update and revise the EMP at the request of NSE, at any time during construction or operation of the Undertaking.	<b>Ongoing.</b>
3.3 All revisions to the EMP must be forwarded to NSE for review and approval.	<b>Ongoing.</b>

3.4 The Approval Holder must, in consultation with NSE and Fisheries and Oceans Canada, develop a post construction monitoring and reporting schedule to be included in the EMP.	<b>EMP still to be provided.</b>
3.5 The Approval Holder must distribute the EMP and all subsequent revisions to NSE and other regulatory agencies.	<b>See above.</b>
<b>4.0 Proposed Wilderness Areas Lands</b> <b>4.1 Within four years of the date of this EA Approval</b> , the Approval Holder must develop and implement a compensation plan that has been reviewed and approved by NSE, for impacts on the Stewiacke River Wilderness Area. This plan shall include, but may not be limited to, the securement of conservation land in the vicinity of the Undertaking for statutory protection by the province.	To date, there have been only very preliminary discussions between the company and NSE regarding the compensation plan. <b>Condition needs to be met by May 21, 2019</b> <b>Dave MacKinnon will review the options.</b>
4.2 Prior to any clearing and /or construction in a proposed wilderness area the Approval Holder must provide notification to NSE.	No clearing or construction in a proposed wilderness area has commenced as of yet.
4.3 The Approval Holder must ensure that any work within a designated wilderness area is approved by the Minister of Environment as required by the <i>Wilderness Areas Protection Act</i> .	No work within a designated wilderness area has commenced as of yet.  Alton needs to contact DLF to determine requirements.
<b>5.0 Aquatic Habitat/ Surface Water/ Watercourse Crossings</b> <b>5.1</b> The Approval Holder must not undertake any “wet” watercourse crossing, unless otherwise approved by NSE.	<b>Ongoing.</b>

5.2 The Approval Holder must obtain an approval from NSE for the construction of watercourse crossings, as specified in the <i>Activities Designation Regulations</i> .	Five watercourses will need to be crossed for the pipeline.
5.3 Any environmental impacts on the public water supply for the Town of Stewiacke must be corrected by the Approval Holder to the satisfaction of NSE.	<b>Ongoing.</b>
5.4 Prior to clearing and/or construction, the Approval Holder must provide an approved security that is satisfactory to NSE. This security is to cover an alternate temporary and/or permanent drinking water supply in the event that the Undertaking impacts the public water supply.	Kathleen Johnson and Bill OHalloran working on this.
<b>6.0 Groundwater</b> 6.1 Prior to any blasting, the Approval Holder must conduct a pre-blast survey for water wells within 800 m of the point of blast. The survey must be conducted in accordance with the NSE "Procedure for Conducting a Pre-Blast Survey". Any water well impacts from the blasting must be corrected by the Approval Holder to the satisfaction of NSE.	Company indicated they are not expecting to blast.
<b>7.0 Flora and Fauna</b> 7.1 Prior to clearing and/or construction, the Approval Holder must provide DNR's Regional Services and Wildlife Division staff with digital way point files revealing precise locations for all "RED", "YELLOW" and "UNDETERMINED" listed species based on actual field inventories for rare/endangered	DNR's Regional Services and Wildlife Division staff confirmed receipt of this information in email May 03, 2016.

<p>vascular, non-vascular plants, lichen, birds, mammals, and reptiles within the affected corridor. The Approval Holder must report to NSE that the files have been provided to DNR. Final location of the pipeline must be determined in consultation with DNR's Wildlife Division, pending review of inventory results.</p>	
<p>7.2 Site preparations that include deforestation, clearing and grubbing must be undertaken between September 1<sup>st</sup> and March 30<sup>th</sup> in order to minimize impacts on breeding birds that may include endangered and threatened species listed under the <i>Species at Risk Act</i> and/or the <i>Nova Scotia Endangered Species Act</i>, unless otherwise approved by NSE.</p>	<p>Ongoing.</p>
<p>7.3 If site preparation activities occur between mid-July and August 31<sup>st</sup>, the Approval Holder must prepare and implement a monitoring and mitigation plan for breeding activity (i.e. nesting) pursuant to the <i>Migratory Bird Convention Act</i>, in consultation with DNR and the Canadian Wildlife Service.</p>	<p>Further details will be included in the project EPP. Ongoing.</p>
<p>7.4 The Approval Holder must use natural species to re-vegetate exposed soil in forest and riparian zones.</p>	<p>Not applicable at this time.</p>
<p>7.5 The Approval Holder must contact DNR prior to any site investigations, construction, or project related access planned on Crown lands.</p>	<p>DNR received an application for a Crown Land Easement on September 5, 2014. This application is currently under review. In process of issuing temporary authorization for preliminary site assessment work (no ground disturbance other than sampling via hand auger).</p>

<p>7.6 Prior to construction, the Approval Holder must undertake wood turtle nesting surveys and all nesting areas must be avoided. All wood turtles found or observed must be reported immediately to DNR's Wildlife Division and the Regional Biologist.</p>	<p>DNR staff have not yet been provided with information as to whether wood turtle nesting surveys have been conducted.</p> <p>WSP have been working on this piece.</p>
<p><b>8.0 Wetlands</b></p> <p>8.1 The Approval Holder must obtain an approval from NSE for the wetland alterations, as specified in the Activities Designation Regulations.</p>	<p>The approval holder has not yet obtained approvals for wetland alterations.</p>
<p>8.2 The Approval Holder must provide GPS boundary coordinates and shape files of all wetlands delineated for the Undertaking to NSE.</p>	<p>The approval holder has not yet provided GPS boundary coordinates for delineated wetlands.</p>
<p><b>9.0 Air Quality and Noise</b></p> <p>9.1 The Approval Holder must participate in future air shed management programs as required by NSE.</p>	<p>NSE has not required the approval holder participate in programs regarding air shed management.</p>
<p>9.2 The Approval Holder must not burn any materials generated as a result of construction activities.</p>	<p>No construction waste has been generated yet and that this condition will be ongoing.</p>
<p>9.3 The Approval Holder must conduct air quality monitoring or dust monitoring at the request of NSE.</p>	<p>NSE has not requested the approval holder conduct air quality or dust monitoring.</p>
<p><b>10.0 Public Consultation</b></p> <p>10.1 The Approval Holder must form, at the request of NSE, a Community Liaison Committee (CLC) for both the Alton Natural Gas Storage Facility and this Undertaking, in consultation with NSE and with municipal and community representatives. The NSE <i>Guidelines for the Formation of a Community Liaison Committee</i> shall be used for the guidance of the Approval Holder and</p>	<p>A CLC is already in place.</p>

community.	
10.2 The Approval Holder must provide, for review and approval by NSE, procedures for hearing and responding to community concerns raised during the construction and operation of the Undertaking.	NSE does not yet have this document.
<b>11.0 Nova Scotia Mi'kmaq</b> 11.1 The Approval Holder must develop and implement a Mi'kmaq Communication Plan for the Undertaking, which will include a process for communicating project details and seeking input from the Mi'kmaq community.	Alton provided an <i>Engagement Strategy</i> in October 2014 that references briefly the pipeline and focuses more on the storage facility.  To meet this condition the engagement plan must be updated.
11.2 The Approval Holder must solicit CLC membership from the Mi'kmaq community if a CLC is requested to be formed by NSE.	CLC already in place.
<b>12.0 Archaeological and Heritage Resources</b> 12.1 The Approval Holder must submit reports for archaeological resource impact assessments conducted for this Undertaking, to Nova Scotia Department of Communities, Culture and Heritage for review and approval. Based on the conclusions and recommendations of this review, further studies and/or mitigation may be required at the request of NSE.	Permit application for archeological assessment of alternate pipeline routes one and two submitted to CCH Oct. 31, 2018. Permit issued Nov.14, 2018
12.2 The Approval Holder must cease work and contact the Special Places Coordinator, Nova Scotia Department of Communities, Culture and Heritage immediately upon discovery of an archaeological site or artifact unearthed during any phase of the proposed Undertaking. If the find is of certain or suspected Mi'kmaq	Ongoing.

origin, the Approval Holder must also contact the Executive Director of the KMKNO.	
<b>13.0 Contingency Planning</b> 13.1 Prior to clearing and/or construction the Approval Holder must submit the Emergency Response and Contingency Plan to NSE for review and approval.	The approval holder has not yet submitted the Emergency Response and Contingency Plan to NSE
13.2 The Approval Holder must contact NSE immediately upon discovery of any contaminated soil.	Ongoing.
<b>14.0 Decommissioning and Site Reclamation</b> 14.1 The Approval Holder must provide NSE with a finalized abandonment plan, for review and approval, six months prior to the permanent shut down of the Undertaking.	Ongoing.

# Alton Approval Status

## Alton Natural Gas Pipeline Project

December 2018

Department	Type of Approval/Permit/Advice	Status
Nova Scotia Environment	Environmental Assessment Approval – Alton Natural Gas Pipeline Project	Approved May 21, 2013
	Watercourse Alteration Approval	No application received to date.
	Wetland Alteration Approvals	No application received to date.
	Approval under <i>Wilderness Areas Protection Act</i>	No application received to date.
	Approved compensation plan for Stewiacke River Wilderness Area	Still outstanding
	Approved security for Protected Water Area	Still outstanding
Office of Aboriginal Affairs		Alton submitted an updated First Nations Engagement Strategy to NSE on May 18, 2018. OAA recommended revisions to NSE on October 29, 2018.  Consultation on outstanding permits and authorizations is continuing with the Mi'kmaq.
Communities Culture and Heritage (CCH)	Review archaeological permit applications and reports.	ARIA application received Oct 31, 2018 for both re-routings. Permits issued Nov. 14, 2018.
Department of Lands and Forestry	Easement required for gas pipeline across Crown land.  Final IRM approval pending confirmation of alternative gas pipeline route.	Easement application June 11, 2014.  In process of issuing temporary authorization for preliminary site assessment work (no ground disturbance other than sampling via hand auger).

<b>Fisheries Canada</b>	DFO to provide advice or <i>Fisheries Act Authorizations</i> depending on stream crossing methods.	
<b>Department of Energy</b>		
<b>Nova Scotia Utility and Review Board</b>	Permit to construct pipeline and license to operate.	

**Paul, Tyra**

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**From:** McLean, Mark G  
**Sent:** Tuesday, January 22, 2019 4:07 PM  
**To:** 'Grant, MT (EC)' (mt.grant@canada.ca)  
**Subject:** FW: ALTON GAS VIOLATION  
**Attachments:** Alton Gas Poster.v5.jpg

Hi MT, could you please forward this to staff on Alton. Thanks.

Mark

**From:** [REDACTED]  
**Sent:** Tuesday, January 22, 2019 3:51 PM  
**To:** justin.trudeau@parl.gc.ca  
**Subject:** ALTON GAS VIOLATION

To whom it may concern:

**PLEASE READ AND SEE ATTACHED DIAGRAM**

It is against federal regulations stated in the federal Fisheries Act to deposit 260ppt brine into a body of water where fish frequent. The public has lost all faith in government as they have allowed Alton Gas to receive their provincial permits while knowingly breaking federal law's which are built into the Alton Gas project. ( by dumping 260 ppt at a rate of 10 000 cubic meters per day, which is a release of a deleterious substance) Alton Gas has also not acquired Consent from the Mi'kmaq Nation and their design will knowingly violate the Treaty Rights of Mi'kmaq.

It is both the provincial and federal responsibility to protect the water and fish habitat by Law.

At this time it appears both federal and provincial governments are knowingly protecting Alton Gas instead of protecting Fish habitat and Treaty Rights. This needs to stop now. The Law's are in place it is now your duty as the government to suspend all permits and charge the company.

We know that the law has already been broken because the province of Nova Scotia failed to get clearance on 2.1(b) in the provinces terms and conditions of the Environmental Assessment. By not getting clearance they failed to uphold federal laws.

Failing to not check off 2.1(b) is a prosecutable violation of the Nova Scotia Environment Act.

Our following questions are

1. When will the permits be revoked
2. When will the government upload the Fisheries Act and tell Alton Gas their project is against federal law and cannot go ahead.
3. When will the Nova Scotia uphold the Nova Scotia Environment Act?
4. How can this project have received permits without Consent or proper consultation from the Mi'kmaq when it will cause serious harm to fish and fish habitat protected by Treaty Rights ?
5. Please read the diagram below

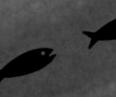


# ↑ Respect Water, Respect Life – STOP ALTON GAS

## 1 Shubenacadie River

This river is on Unceded Mi'kmaq Territory and is protected by Treaty Rights that have been in place for hundreds of years and have been affirmed and reaffirmed by Canadian courts.

Free flowing to the river  
(fish can enter and exit the channel completely unhindered).

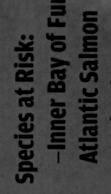


"Mixing Channel"

Brine dumping site  
10,000 m<sup>2</sup> per day  
260 ppt

Any activity that impacts the Shubenacadie River violates the Treaty Rights of the Mi'kmaq People.

Species at Risk:  
-Inner Bay of Fundy  
-Atlantic Salmon  
-Striped Bass



By law, deleterious substances cannot be deposited into a place where fish frequent as per sections 36(3) of the Fisheries Act (1985)

4



8

"Human activity should not cause the salinity of marine and estuary water to fluctuate by more than 10% of the natural level expected at that time and depth" (Canadian Water Quality Guidelines for the Protection of Aquatic Life – Canadian Council of Ministers of the Environment, 1996)



This guideline will be violated by dumping brine, as the full strength brine (260 ppt) is 760% saltier than seawater (34 ppt) and the amount of brine is enormous – 10,000 m<sup>2</sup> / day.  
A single cavern will lead to 500 000 tonnes of salt dumped in the river.



[facebook.com/stopal tongas](http://facebook.com/stopal tongas)

Planned Gas Caverns



**2019-001-00192****Minister / Ministre (DFO/MPO)**

**From:** Prime Minister/Premier Ministre <PM@pm.gc.ca>  
**Sent:** January-23-19 11:23 AM  
**To:** [REDACTED]  
**Cc:** Minister / Ministre (DFO/MPO)  
**Subject:** Office of the Prime Minister / Cabinet du Premier ministre  
**Attachments:** Alton\_Gas\_Poster\_v5.jpg

Dear [REDACTED]

On behalf of Prime Minister Justin Trudeau, I would like to acknowledge receipt of your correspondence.

Please be assured that your comments have been carefully reviewed. In your correspondence, you raise an issue that falls within the portfolio of the Honourable Jonathan Wilkinson, Minister of Fisheries, Oceans and the Canadian Coast Guard. I have therefore taken the liberty of forwarding your email to Minister Wilkinson for his information and consideration.

Thank you for taking the time to write.

J.P. Vachon  
Manager/Gestionnaire  
Executive Correspondence Services  
for the Prime Minister's Office  
Services de la correspondance  
de la haute direction  
pour le Cabinet du Premier ministre

>>> From : [REDACTED] Received : 22 Jan 2019 02:51:30 PM >>>

>>> Subject : ALTON GAS VIOLATION >>>

To whom it may concern:

PLEASE READ AND SEE ATTACHED DIAGRAM

It is against federal regulations stated in the federal Fisheries Act to deposit 260ppt brine into a body of water where fish frequent. The public has lost all faith in government as they have allowed Alton Gas to receive their provincial permits while knowingly breaking federal law's which are built into the Alton Gas project. ( by dumping 260 ppt at a rate of 10 000 cubic meters per day, which is a release of a deleterious substance) Alton Gas has also not acquired Consent from the Mi'kmaq Nation and their design will knowingly violate the Treaty Rights of Mi'kmaq.

It is both the provincial and federal responsibility to protect the water and fish habitat by Law. At this time it appears both federal and provincial governments are knowingly protecting Alton Gas instead of protecting Fish habitat and Treaty Rights. This needs to stop now. The Law's are in place it is now your duty as the government to suspend all permits and charge the company.

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Failing to not check off 2.1(b) is a prosecutable violation of the Nova Scotia Environment Act.  
Our following questions are

1. When will the permits be revoked
2. When will the government upload the Fisheries Act and tell Alton Gas their project is against federal law and cannot go ahead.
3. When will the Nova Scotia uphold the Nova Scotia Environment Act?
4. How can this project have received permits without Consent or proper consultation from the Mi'kmaq when it will cause serious harm to fish and fish habitat protected by Treaty Rights ?
5. Please read the diagram below



**Page 67**  
**is a duplicate of**  
**est un duplicata de la**  
**page 64**

## Paul, Tyra

---

**From:** Dera, Beata E <Beata.Dera@novascotia.ca>  
**Sent:** Friday, January 25, 2019 5:02 PM  
**To:** MacPhail, Helen; McNally, Kelly D; MacKinnon, David S; Cameron, Melanie J; Bird, Michael W; O'Halloran, Bill W; Nikoloyuk, Jordan; Weseloh McKeane, Sean; Bekkers, Kevin F; McLean, Mark G; Rillie, Claire Z; MacKenzie, Tanya L; Johnson, Kathleen; Tupper, Ann; michael.hingston@canada.ca; Zwicker, Stephen (EC); Milton, Randy Gordon  
**Cc:** Robichaud, Blake M; Bowen, Lynn A  
**Subject:** RE: Alton Gas Pipeline - Commence Work

Hi Helen

Thank-you for providing the commencement of work description from Alton. As it reflects the information shared by Alton verbally at the regulators' one-window meeting, I have no questions regarding the proposed activity.

I would like to inquire whether Alton has shared this information with the Mi'kmaq, and which groups. Secondly, to note that Aboriginal consultation continues on the various authorizations required for the project.

Thank-you  
Beata

*Beata Dera*  
Director of Consultation  
Nova Scotia Office of Aboriginal Affairs  
902-424-2590

**From:** MacPhail, Helen <Helen.MacPhail@novascotia.ca>  
**Sent:** Monday, January 21, 2019 11:12 AM  
**To:** McNally, Kelly D <Kelly.McNally@novascotia.ca>; MacKinnon, David S <David.MacKinnon2@novascotia.ca>; Cameron, Melanie J <Melanie.Cameron@novascotia.ca>; Bird, Michael W <Michael.Bird@novascotia.ca>; O'Halloran, Bill W <Bill.OHalloran@novascotia.ca>; Nikoloyuk, Jordan <Jordan.Nikoloyuk@novascotia.ca>; Weseloh McKeane, Sean <Sean.WeselohMcKeane@novascotia.ca>; Bekkers, Kevin F <Kevin.Bekkers@novascotia.ca>; Mark.McLean@dfo-mpo.gc.ca; Dera, Beata E <Beata.Dera@novascotia.ca>; Rillie, Claire Z <Claire.Rillie@novascotia.ca>; MacKenzie, Tanya L <Tanya.MacKenzie@novascotia.ca>; Johnson, Kathleen <Kathleen.Johnson@novascotia.ca>; Tupper, Ann <Ann.Tupper@novascotia.ca>; michael.hingston@canada.ca; Zwicker, Stephen (EC) <stephen.zwicker@canada.ca>; Milton, Randy Gordon <Gordon.Milton@novascotia.ca>  
**Cc:** Robichaud, Blake M <Blake.Robichaud@novascotia.ca>; Bowen, Lynn A <Lynn.Bowen@novascotia.ca>  
**Subject:** FW: Alton Gas Pipeline - Commence Work

Hello All,  
Here is the information Tim Church provided regarding the "Commencement of Work" for your review. As discussed at the meeting all the EA conditions that include "prior to clearing " will need to be met, as well as obtaining all permissions from government departments eg. Lands and Forestry. Please let me know if you have any comments by January 28, 2019.

Thank you,  
Helen

**From:** Tim Church [REDACTED]  
**Sent:** Friday, January 11, 2019 2:49 PM  
**To:** MacPhail, Helen <[Helen.MacPhail@novascotia.ca](mailto:Helen.MacPhail@novascotia.ca)>  
**Cc:** Bishop, Ivan [REDACTED] Cassidy, Sean [REDACTED]  
**Subject:** Alton Gas Pipeline - Commence Work

Hi Helen,

Further to our discussions regarding commencement of construction, Alton offers the attached description of "Commencement of Work" for your consideration. We would be happy to discuss this further at your convenience.

Thank you

**Tim Church**  
President, Alton Natural Gas Storage &  
Vice-President, Stakeholder Relations

**AltaGas Ltd.**  
| mobile [REDACTED] <http://altaagas.ca>

This communication is directed in confidence solely to the named recipients, and may not otherwise be distributed, copied or disclosed. If you have received this email in error, please notify us immediately and delete this communication.

**Paul, Tyra**

**From:** Robichaud, Blake M <Blake.Robichaud@novascotia.ca>  
**Sent:** Sunday, January 27, 2019 3:47 PM  
**To:** Tim Church; MacPhail, Helen; McNally, Kelly D; MacKinnon, David S; Cameron, Melanie J; Bird, Michael W; O'Halloran, Bill W; Nikoloyuk, Jordan; Weseloh McKeane, Sean; Bekkers, Kevin F; McLean, Mark G; Dera, Beata E; Rillie, Claire Z; MacKenzie, Tanya L; Johnson, Kathleen; michael.hingston@canada.ca; [REDACTED] Cassidy, Sean; Bob Rutherford; Tupper, Ann; [REDACTED] Roberts, Lorrie A; Gillis, Emily  
**Subject:** RE: Alton Gas One Window  
**Attachments:** 2019-1-15 Alton one window Minutes.docx

Good Afternoon Everyone,

Please find attached the minutes from the January 15<sup>th</sup> one window meeting. [REDACTED]

Please let me know if any edits are required.

Thank you,

Blake Robichaud  
Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.478.9063

-----Original Appointment-----

**From:** Robichaud, Blake M  
**Sent:** December 28, 2018 12:44 PM  
**To:** Robichaud, Blake M; Tim Church; Helen MacPhail (Helen.MacPhail@novascotia.ca); McNally, Kelly D; MacKinnon, David S; Melanie J Cameron (Melanie.Cameron@novascotia.ca); Bird, Michael W; O'Halloran, Bill W; Jordan Nikoloyuk (Jordan.Nikoloyuk@novascotia.ca); Sean Weseloh McKeane (Sean.WeselohMcKeane@novascotia.ca); Bekkers, Kevin F; Mark.McLean@dfo-mpo.gc.ca; Dera, Beata E; Rillie, Claire Z; MacKenzie, Tanya L; Johnson, Kathleen; michael.hingston@canada.ca  
**Cc:** [REDACTED] Cassidy, Sean; Bob Rutherford; Tupper, Ann; [REDACTED] Roberts, Lorrie A; Gillis, Emily  
**Subject:** Alton Gas One Window  
**When:** January 15, 2019 10:00 AM-12:00 PM (UTC-04:00) Atlantic Time (Canada).  
**Where:** RM-HLFX-CentenialBld-DOB-06FL-Mtg-6D-VC

Good Morning and Happy New Year,

This meeting will take place at the following location:

Room 6D  
Nova Scotia Department of Business  
6<sup>th</sup> Floor Centennial Building

1660 Hollis Street, Halifax

There is also an entrance off Granville Street at the corner of Sackville and Granville. Room 6D is off the main hallway from the elevators, at the north end of the building opposite the men's washroom. If you arrive early there is a reception area with seating at the opposite end of the floor. I will circulate conference call information closer to the date.

Blake Robichaud  
Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.424.0909 | 902.478.9063 (c)

Good Afternoon,

We are setting up this 'one window' meeting regarding the Alton Gas project per correspondence from Michael Bird earlier this month. Please let me know if there is anyone else from your department that should be included on this appointment.

Tim, can you also please provide me with the names and emails of any other AltaGas representatives that you would like added to this appointment?

I am waiting for a room to be released and will send an updated appointment with the specific location at that time.

Thank you,

Blake Robichaud  
Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.424.0909 | 902.478.9063 (c)

**Alton Underground Natural Gas Storage Facility and Natural Gas Pipeline Project****One Window Committee Minutes - January 15, 2019****Room 6D, Nova Scotia Department of Business****Participants**

**Proponent:** Tim Church (Alton); Ivan Bishop (WSP); Sean Cassidy (WSP); Emily Gillis (WSP); Bob Rutherford (Consultant); [REDACTED] (Osprey Land Services); [REDACTED] (Consultant)

**Federal:** Steve Zwicker (ECCC); Mark McLean (DFO)

**Provincial:** Helen MacPhail (NSE); David MacKinnon (NSE); Kathleen Johnson (NSE); Tanya MacKenzie (NSE); Lorrie Roberts (NSE); Kelly McNally (NSE); Melanie Cameron (DLF); Ann Tupper (DLF); Beata Dera (OAA); Claire Rillie (OAA); Sean Weseloh McKeane (CCH); Kevin Bekkers (Agriculture); Bill O'Halloran (DEM); Jake Mosher (DOB); Blake Robichaud (DOB)

**Opening and Updates**

Blake Robichaud from the Nova Scotia Department of Business opened the meeting. Going forward, Blake will be available to provide any coordination support for the project's regulatory review processes.

Tim Church then provided a brief overview of the three major components of the project and reiterated the target in-service date of 2022. The proponent's extension request to the Nova Scotia Utilities and Review Board (UARB) regarding its approval to construct is with the board for decision.

It was raised whether the UARB should be included in these meetings. Blake Robichaud will follow-up.

Bob Rutherford updated on the toxicity testing conducted by Dalhousie University on the salinity levels that would result from the proposed brining activity and the final report that was circulated in the summer of 2018. Bob indicated that these tests confirmed that striped bass are highly tolerant to salt. A copy of the report was shared with the Mi'kmaq; receipt was acknowledged, and no follow-up questions have been received to-date. The study will continue in 2019.

Mark McLean highlighted that it will be important for subsequent tests to use expected full brine concentrations to determine lethal exposure periods. Should the project proceed, stakeholders will likely be interested in knowing the ability of fish to tolerate the salinity levels of the proposed activity, even if the levels come in lower than the anticipated levels.

Tim provided an update on the fish-barrier concepts being considered as an additional measure to prevent fish exposure to the salinity in the mixing channel. One concept is favored for the project as it would allow for regular maintenance and cleaning during low tide. Mark indicated that the concept has some uncertainty regarding potential impacts on flow and sedimentation and that it would be beneficial to study these possibilities.

## Gravity Survey

provided a presentation on the gravity survey conducted in late 2018. The survey collected data on the density of the two primary types of rock in the areas of the proposed storage caverns. [REDACTED] provided rationale for why the gravity survey is a preferred approach over drilling, which included the minimally invasive nature of the work as well as its efficiency. It was explained that this approach is different from drilling, however, in that the information is interpretative and relies on an analysis of various data sources rather than the individual core samples produced through drilling. Data from the gravity survey conducted for the entire site will be analyzed and calibrated with information acquired from the drilling conducted previously. The intention is to show that the gravity survey can be used as a predictive tool for salt and anhydrite thickness. Once the data is processed information will be provided to the UARB.

## Estuary

Regarding sedimentation, Bob Rutherford explained the two concepts currently being considered are a water pump to enhance the tidal erosion that would naturally take place or to utilize traditional dredging, or a combination of both. The objective is to keep the river flowing and the mixing channel washed out.

Mark indicated that there will be interest in the type of dredging activity at the site, particularly regarding the sediment issues and how other regulators and the proponent will be dealing with those. Mark suggested that taking sediment samples now as a baseline so that it can be compared with sediment samples during any dredging activity to demonstrate any difference.

Tim asked how much time would be required for the DFO and NSE reviews of the proposed sediment removal activity. Mark indicated the DFO review should not take no more than a couple of months if a Fisheries Act Authorization was not required, while Tanya MacKenzie explained that NSE has a legislated maximum review length of 60 days.

## Pipeline

Tim introduced Ivan Bishop from WSP to lead discussion on the pipeline and proposed rerouting. A map of the proposed pipeline including reroutes was circulated in hard copy.

Ivan provided an overview of the two rerouted sections ("reroute 1" and "reroute 2"). Both sections were changed from the original Stantec routing from 2011. Reroute 1 has been through an environmental site survey and archaeology work was completed in the fall of 2018. Reroute 2 is required due to a landowner who did not want the pipeline on their property.

More field work will be done in the spring of 2019, including detailed ecological study with birds, plants, and fauna and additional archaeological study.

Regarding requirements for easements over Crown land, Melanie Cameron indicated that work to-date will need to be updated based on the reroutes. As everything for the easements is location-specific, the route needs to be finalized before the Department of Lands and Forestry can review internal land

records and initiate the Integrated Resource Management (IRM) review. [REDACTED]

Ivan confirmed with Melanie that a high-level plan of the survey that identifies the proposed routing will be sufficient to start the review process and indicated an anticipated timeline of [REDACTED] for providing this information. [REDACTED]

### **Commencement of Work (EA)**

Helen MacPhail indicated that the [REDACTED] and reminded that all permissions need to be in place with the Department of Lands and Forestry and that conditions of the EA have also been met prior to commencing work. To this Ivan indicated [REDACTED] as the current target for completing the EMP, with the EPP, as well as archaeology and environmental work regarding reroutes 1 and 2 should also be delivered [REDACTED]

Sean Weseloh McKeane indicated that the Department of Communities, Culture, and Heritage (CCH) needs to review and accept the results of the archaeological work before that component can be considered complete. [REDACTED]

[REDACTED] Sean recommended that reports not be shared until reviewed and deemed complete by the department. Beata Dera requested that when anything is shared with Mi'kmaq stakeholders that the Office of Aboriginal Affairs be copied.

Regarding the commencement of work, Ivan suggested that the current plan would be to [REDACTED] to put the work ahead of bird season, acknowledging that requirement from Lands and Forestry will be required [REDACTED] Melanie indicated it would not be possible to complete [REDACTED] process by [REDACTED]

### **Water Supply / Security**

Helen suggested convening a separate technical meeting to discuss issues specific to water supply and financial security. Bill O'Halloran agreed and suggested that meeting explore ways to consolidate the current security held by the Department of Energy with the security required by Nova Scotia Environment. This was agreed by all and will be explored at the subsequent technical meeting as soon as practicable.

### **Proposed Wilderness Area Compensation Plan**

David MacKinnon provided an update on a meeting held between NSE and WSP representatives in December 2018 and outlined the potential options for the path forward. The compensation plan needs to be in place [REDACTED] David will be writing up the formal options for internal review and will be providing this document to Alton's representatives in the coming weeks.

### Consultation

Beata Dera provided an update on consultation and informed the table that the province received a request from the Mi'kmaq for updates and information on approvals for this project. This is a standard request, and in the response letter OAA suggest to the KMKNO that a consultation meeting could be planned. A response to this suggestion has not yet been received. Beata indicated if consultation meeting is set up, the proponent would be invited to a portion of the meeting to provide an overview of the project.



Tim acknowledged the consultation needs and highlighted some examples of their work



Beata responded that while government does encourage proponents to engage communities



[Meeting Concludes]

#	ACTION ITEM	LEAD
1	The UARB will be approached about joining one window meetings on the project.	Blake (DOB)
2	A follow-up meeting will be held to discuss consolidation of security for the project.	Helen (NSE)
3	Formal options for the Proposed Wilderness Area Compensation Plan will be drafted and sent to the proponent.	David (NSE)
4		Ivan (WSP) and Melanie (DLF)
5	The proponent will be invited to the next consultation meeting to provide a project overview for the Mi'kmaq.	Beata (OAA)

**Paul, Tyra**

**From:** Robichaud, Blake M <Blake.Robichaud@novascotia.ca>  
**Sent:** Friday, February 1, 2019 2:12 PM  
**To:** Tim Church; MacPhail, Helen; McNally, Kelly D; MacKinnon, David S; Cameron, Melanie J; Bird, Michael W; O'Halloran, Bill W; Nikoloyuk, Jordan; Weseloh McKeane, Sean; Bekkers, Kevin F; McLean, Mark G; Dera, Beata E; Rillie, Claire Z; MacKenzie, Tanya L; Johnson, Kathleen; michael.hingston@canada.ca; [REDACTED] Cassidy, Sean; Bob Rutherford; Tupper, Ann; [REDACTED]; Roberts, Lorrie A; Gillis, Emily  
**Subject:** RE: Alton Gas One Window  
**Attachments:** 2019-1-15 Alton one window Minutes Revised.docx

Hi All,

Please find attached the revised minutes from January 15<sup>th</sup>, with edits from DFO incorporated.

Blake Robichaud  
Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.478.9063

**From:** Robichaud, Blake M  
**Sent:** January 27, 2019 3:47 PM  
**To:** Tim Church <[REDACTED]>; Helen MacPhail (Helen.MacPhail@novascotia.ca)  
<Helen.MacPhail@novascotia.ca>; McNally, Kelly D <Kelly.McNally@novascotia.ca>; MacKinnon, David S  
<David.MacKinnon2@novascotia.ca>; Melanie J Cameron (Melanie.Cameron@novascotia.ca)  
<Melanie.Cameron@novascotia.ca>; Bird, Michael W <Michael.Bird@novascotia.ca>; O'Halloran, Bill W  
<Bill.OHalloran@novascotia.ca>; Jordan Nikoloyuk (Jordan.Nikoloyuk@novascotia.ca)  
<Jordan.Nikoloyuk@novascotia.ca>; Sean Weseloh McKeane (Sean.WeselohMcKeane@novascotia.ca)  
<Sean.WeselohMcKeane@novascotia.ca>; Bekkers, Kevin F <Kevin.Bekkers@novascotia.ca>; 'Mark.McLean@dfo-  
mpo.gc.ca' <Mark.McLean@dfo-mpo.gc.ca>; Dera, Beata E <Beata.Dera@novascotia.ca>; Rillie, Claire Z  
<Claire.Rillie@novascotia.ca>; MacKenzie, Tanya L <Tanya.MacKenzie@novascotia.ca>; Johnson, Kathleen  
<Kathleen.Johnson@novascotia.ca>; michael.hingston@canada.ca; [REDACTED]  
Cassidy, Sean <[REDACTED]>; Bob Rutherford <[REDACTED]> Tupper, Ann  
<Ann.Tupper@novascotia.ca>; [REDACTED] Roberts, Lorrie A <Lorrie.Roberts@novascotia.ca>; Gillis, Emily  
<[REDACTED]>  
**Subject:** RE: Alton Gas One Window

Good Afternoon Everyone,

Please find attached the minutes from the January 15<sup>th</sup> one window meeting. Apologies for the delayed turnaround as the flu had me out of the office for most of last week.

Please let me know if any edits are required.

Thank you,

Blake Robichaud  
Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.478.9063

-----Original Appointment-----

**From:** Robichaud, Blake M

**Sent:** December 28, 2018 12:44 PM

**To:** Robichaud, Blake M; Tim Church; Helen MacPhail ([Helen.MacPhail@novascotia.ca](mailto:Helen.MacPhail@novascotia.ca)); McNally, Kelly D; MacKinnon, David S; Melanie J Cameron ([Melanie.Cameron@novascotia.ca](mailto:Melanie.Cameron@novascotia.ca)); Bird, Michael W; O'Halloran, Bill W; Jordan Nikoloyuk ([Jordan.Nikoloyuk@novascotia.ca](mailto:Jordan.Nikoloyuk@novascotia.ca)); Sean Weseloh McKeane ([Sean.WeselohMcKeane@novascotia.ca](mailto:Sean.WeselohMcKeane@novascotia.ca)); Bekkers, Kevin F; [Mark.McLean@dfo-mpo.gc.ca](mailto:Mark.McLean@dfo-mpo.gc.ca); Dera, Beata E; Rillie, Claire Z; MacKenzie, Tanya L; Johnson, Kathleen; [michael.hingston@canada.ca](mailto:michael.hingston@canada.ca)

**Cc:** [REDACTED] Cassidy, Sean; Bob Rutherford; Tupper, Ann; [REDACTED] Roberts, Lorrie A; Gillis, Emily

**Subject:** Alton Gas One Window

**When:** January 15, 2019 10:00 AM-12:00 PM (UTC-04:00) Atlantic Time (Canada).

**Where:** RM-HLFX-CentennialBld-DOB-06FL-Mtg-6D-VC

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Room 6D  
Nova Scotia Department of Business  
6<sup>th</sup> Floor Centennial Building  
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Blake Robichaud  
Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.424.0909 | 902.478.9063 (c)

Good Afternoon,

We are setting up this 'one window' meeting regarding the Alton Gas project per correspondence from Michael Bird earlier this month. Please let me know if there is anyone else from your department that should be included on this appointment.

**Tim, can you also please provide me with the names and emails of any other AltaGas representatives that you would like added to this appointment?**

I am waiting for a room to be released and will send an updated appointment with the specific location at that time.

Thank you,

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Policy Analyst

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.424.0909 | 902.478.9063 (c)

**Alton Underground Natural Gas Storage Facility and Natural Gas Pipeline Project****One Window Committee Minutes - January 15, 2019****Room 6D, Nova Scotia Department of Business****Participants**

**Proponent:** Tim Church (Alton); Ivan Bishop (WSP); Sean Cassidy (WSP); Emily Gillis (WSP); Bob Rutherford (Consultant); [REDACTED] Osprey Land Services; [REDACTED] (Consultant)

**Federal:** Steve Zwicker (ECCC); Mark McLean (DFO)

**Provincial:** Helen MacPhail (NSE); David MacKinnon (NSE); Kathleen Johnson (NSE); Tanya MacKenzie (NSE); Lorrie Roberts (NSE); Kelly McNally (NSE); Melanie Cameron (DLF); Ann Tupper (DLF); Beata Dera (OAA); Claire Rillie (OAA); Sean Weseloh McKeane (CCH); Kevin Bekkers (Agriculture); Bill O'Halloran (DEM); Jake Mosher (DOB); Blake Robichaud (DOB)

**Opening and Updates**

Blake Robichaud from the Nova Scotia Department of Business opened the meeting. Going forward, Blake will be available to provide any coordination support for the project's regulatory review processes.

Tim Church then provided a brief overview of the three major components of the project and reiterated the target in-service date of 2022. The proponent's extension request to the Nova Scotia Utilities and Review Board (UARB) regarding its approval to construct is with the board for decision.

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Mark McLean highlighted that it will be important to use current testing as art of establishing a baseline for subsequent tests and for monitoring purposes should the project proceed as stakeholders will likely be interested in knowing the salinity levels of the proposed activity, even if the levels come in lower than the allowable thresholds.

Tim provided an update on the fish-barrier concepts being considered as an additional measure to prevent fish exposure to the salinity in the mixing channel. One concept is favored for the project as it would allow for regular maintenance and cleaning during low tide. Mark indicated that the concept has some uncertainty regarding potential impacts on flow and sedimentation and that it would be beneficial to study these possibilities.

**Gravity Survey**

██████████ provided a presentation on the gravity survey conducted in late 2018. The survey collected data on the density of the two primary types of rock in the areas of the proposed storage caverns. ██████████ provided rationale for why the gravity survey is a preferred approach over drilling, which included the minimally invasive nature of the work as well as its efficiency. It was explained that this approach is different from drilling, however, in that the information is interpretative and relies on an analysis of various data sources rather than the individual core samples produced through drilling. Data from the gravity survey conducted for the entire site will be analyzed and calibrated with information acquired from the drilling conducted previously. The intention is to show that the gravity survey can be used as a predictive tool for salt and anhydrite thickness. Once the data is processed information will be provided to the UARB.

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Tim introduced Ivan Bishop from WSP to lead discussion on the pipeline and proposed rerouting. A map of the proposed pipeline including reroutes was circulated in hard copy.

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Ivan confirmed with Melanie that a high-level plan of the survey that identifies the proposed routing will be sufficient to start the review process and indicated an anticipated timeline of [REDACTED] for providing this information.

#### **Commencement of Work (EA)**

Helen MacPhail indicated that the [REDACTED] and reminded that all permissions need to be in place with the Department of Lands and Forestry and that conditions of the EA have also been met prior to commencing work. To this Ivan indicated [REDACTED] as the current target for completing the EMP, with the EPP, as well as archaeology and environmental work regarding reroutes 1 and 2 should also be delivered [REDACTED]

Sean Weseloh McKeane indicated that the Department of Communities, Culture, and Heritage (CCH) needs to review and accept the results of the archaeological work before that component can be considered complete. [REDACTED]

[REDACTED] Sean recommended that reports not be shared until reviewed and deemed complete by the department. Beata Dera requested that when anything is shared with Mi'kmaq stakeholders that the Office of Aboriginal Affairs be copied.

Regarding the commencement of work, Ivan suggested that the current plan would be to [REDACTED] [REDACTED] to put the work ahead of bird season, acknowledging that requirement from Lands and Forestry will be required [REDACTED] Melanie indicated it would not be possible to complete [REDACTED] process by [REDACTED]

#### **Water Supply / Security**

Helen suggested convening a separate technical meeting to discuss issues specific to water supply and financial security. Bill O'Halloran agreed and suggested that meeting explore ways to consolidate the current security held by the Department of Energy with the security required by Nova Scotia Environment. This was agreed by all and will be explored at the subsequent technical meeting as soon as practicable.

#### **Proposed Wilderness Area Compensation Plan**

David MacKinnon provided an update on a meeting held between NSE and WSP representatives in December 2018 and outlined the potential options for the path forward. The compensation plan needs to be in place [REDACTED] David will be writing up the formal options for internal review and will be providing this document to Alton's representatives in the coming weeks.

#### **Consultation**

Beata Dera provided an update on consultation and informed the table that the province received a request from the Mi'kmaq for updates and information on approvals for this project. This is a standard request, and in the response letter OAA suggest to the KMKNO that a consultation meeting could be planned. A response to this suggestion has not yet been received. Beata indicated if consultation meeting is set up, the proponent would be invited to a portion of the meeting to provide an overview of the project.

[REDACTED]

Tim acknowledged the consultation needs and highlighted some examples of their work.

[REDACTED]

Beata responded that while government does encourage proponents to engage communities

[REDACTED]

[Meeting Concludes]

#	ACTION ITEM	LEAD
1	The UARB will be approached about joining one window meetings on the project.	Blake (DOB)
2	A follow-up meeting will be held to discuss consolidation of security for the project.	Helen (NSE)
3	Formal options for the Proposed Wilderness Area Compensation Plan will be drafted and sent to the proponent.	David (NSE)
4	[REDACTED]	Ivan (WSP) and Melanie (DLF)
5	The proponent will be invited to the next consultation meeting to provide a project overview for the Mi'kmaq.	Beata (OAA)

**Boulanger, Chantel**

**From:** Minister / Ministre (DFO/MPO)  
**Sent:** Monday, February 4, 2019 3:21 PM  
**To:** [REDACTED]  
**Cc:** ec.ministre-minister.ec@canada.ca  
**Subject:** Reply from Fisheries and Oceans Canada / Réponse de Pêches et Océans Canada  
**Attachments:** 2019-001-00192.PDF

Dear [REDACTED]

I am writing in response to your correspondence of January 22, 2019, regarding the Alton Gas project.

As this matter falls under the purview of Environment and Climate Change Canada, I have taken the liberty of forwarding a copy of your correspondence to the office of the Honourable Catherine McKenna, Minister of Environment and Climate Change, for her consideration.

Thank you for writing to the Government of Canada.

Yours sincerely,

Manager  
Ministerial Correspondence Control Unit  
Fisheries and Oceans Canada  
200 Kent Street / Ottawa ON, K1A 0E6  
[min@dfo-mpo.gc.ca](mailto:min@dfo-mpo.gc.ca) / Tel: 613-992-3474 / Fax: 613-990-7292

c.c. Office of the Minister of Environment and Climate Change

**Mayrand, Benoit**

**From:** Mayrand, Benoit  
**Sent:** April-23-19 12:23 PM  
**To:** Media (EC)  
**Cc:** NCR Media RCN (DFO/MPO)  
**Subject:** RE: media request -- deadline Wednesday

Confirmation email from Environment Canada not found by program.

Hi EC colleagues,

Can you confirm that you will be following up ?

Merci,

**Benoit Mayrand**

Media Relations | Relations avec les médias  
Tel : 613-993-9720

**From:** [REDACTED]  
**Sent:** April-23-19 11:09 AM  
**To:** Media (EC) <ec.media.ec@canada.ca>  
**Cc:** NCR Media RCN (DFO/MPO) <Media.XNCR@dfo-mpo.gc.ca>  
**Subject:** re: media request -- deadline Wednesday

Hi there,

[REDACTED] here from Global News, hope you're well. I'm looking for an update on the creation of new regulations for bringing in freshwater – brought on by the Alton Gas natural gas storage project near Stewiacke, N.S.

For context:

<https://globalnews.ca/news/5009226/alton-gas-federal-government/>  
<https://www.canada.ca/en/environment-climate-change/services/managing-pollution/effluent-regulations-fisheries-act/alton-natural-gas-storage-proposed.html>

I'd like to know when we can expect those regulations to be completed, what current processes are underway, what stage the creation is in, etc.

My deadline is 5 p.m. AST on Wednesday.

Thanks for your help,

[REDACTED]  
[REDACTED]  
Digital Broadcast Journalist | Global News Halifax, New Brunswick  
Global News | Corus Entertainment  
2110 Gottingen St., Halifax N.S.

M : [REDACTED]

T: [REDACTED]



**Paul, Tyra**

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**From:** Mitchell, David A <David.Mitchell@novascotia.ca>  
**Sent:** Wednesday, May 22, 2019 2:09 PM  
**To:** MacPhail, Helen; MacKinnon, David S; Johnson, Kathleen; MacKenzie, Tanya L; McNally, Kelly D; Cameron, Melanie J; Tupper, Ann; Dera, Beata E; Rillie, Claire Z; Weseloh, McKeane, Sean; Bekkers, Kevin F; O'Halloran, Bill W; Miller, David J; stephen.zwicker@canada.ca; McLean, Mark G  
**Cc:** Bird, Michael W; Oldrieve, Melissa E; Tracy, Alison  
**Subject:** RE: Alton Natural Gas Meeting  
**Attachments:** 2019-05-09 Notes\_Alton Gas Project - Regulators Meeting.docx; Alton Pipeline Map\_May 9th Meeting.pdf

Hi everyone,

As a follow-up to our May 9<sup>th</sup> Alton Regulators Meeting, I wanted to circulate draft notes and follow-up items.

A big thank you to Melissa at DEM for her assistance in pulling these together.

If everyone could have a review of these notes and provide feedback by Monday - June 3, 2019 that would be much appreciated.

Sincerely,

**David Mitchell**  
**Corporate Strategist**  
**Major Projects Coordination Initiative Lead**

Nova Scotia Department of Business | 1660 Hollis Street | Halifax, NS | 902.424-0909

## Meeting Notes

### Alton Natural Gas Project – Regulator's Meeting

Location: Nova Scotia Department of Business, 1660 Hollis Street, 6<sup>th</sup> Floor, Room 6D

May 9, 2019 1:30pm – 2:30pm

In attendance and by phone	
Helen MacPhail – NSE EA Branch	Beata Dera – OAA
Kelly McNally – NSE ICE Division (By phone)	Claire Rillie – OAA
Kathleen Johnson – NSE ICE Division	Kevin Bekkers – Agriculture
David MacKinnon – NSE Protected Areas (By phone)	Melissa Oldrieve - Energy
Melanie Cameron – L&F Land Admin (By phone)	Michael Bird - Energy
Ann Tupper – L&F Land Admin (By phone)	Stephen Zwicker – ECCC (By phone)
Sean Weseloh McKeane – CCH	Mark McLean – DFO (By phone)
<b>Chair:</b> David Mitchell – Major Projects Coordination Initiative - DOB	

### Introductions and Context

Energy and Mines clarified that the UARB is a judicial body that prefers to remain at arms-length from government.

Energy and Mines will continue to be a liaison with the UARB and provide updates and facilitate communications as required.

The Major Projects Coordination Initiative lead provided an overview of the initiative and indicated the following three immediate priorities:

- Coordinate regulator and proponent One-Window Meetings for 6 major projects, of which Alton Gas is one.
- Identify and track project specific issues.
- Identify and communicate on the status of approvals, permits and authorizations required.

#### Action Item:

- The Major Projects Coordination Initiative will reach out to Energy and Mines about communicating to Alton Natural Gas on the involvement of the UARB in future Alton One-Window Meetings.

## Alton Natural Gas Pipeline

NSE has issued an EA Extension for the Alton Pipeline Project until May 2021.

Alton Natural Gas had proposed re-routing two sections of the 2013 EA approved pipeline.

NSE has reviewed the proposed re-route #2 section and made a determination that the change would not be a modification of the existing EA.

Re-route #1 section was reviewed a few years earlier and the same determination was made by NSE EA.

A map was provided by NSE EA at the meeting and a scanned version has been included with these notes.

For sections of proposed re-route #1 there are a number of test pits that are required in order to complete archaeological research outline in the March 2019 ARIA.

A copy of the final ARIA approved by CCH was sent to the Mi'kmaq by the Alton Natural Gas in April 2019.

L&F confirmed they are aware of the proposed test pits (approx. 50) along sections of re-route #1 and have issued temporary access to complete this work.

L&F said Alton was granted a temporary Letter of Authority (LOA) to complete work within the project area, specifically for re-route #1 and #2.

L&F confirmed that the temporary LOA issued to Alton will expire on May 21, 2019, however an extension will be granted until May 2021.

As part of the process for extending the LOA, L&F are looking for some additional information on the location of archaeological test pits and brush and tree clearing.

L&F indicated that they understand that the proponent is looking to cut trees and brush to mark the pipeline corridor and to hand dig archaeological test pits. No stump removal or ground disturbance is being proposed.

Regarding re-route #2, NSE communicated that the proponent is required to complete additional environment studies related to wetlands.

Wetland impacts are expected for sections of re-route #2 and the proponent will be required to apply for a Wetland Alteration Approval for any impacts to the wetlands.

NSE said that the proponent was in the process of completing an Environmental Management Plan, which must be completed before.....

**Commented [MDA1]:** Helen, can you add anything on this.

NSE – Protected Areas (PA) stated that they have been working with Alton Natural Gas to land on compensation for potential impacts to the Crown land should it be designated as a Wilderness Protected Area in the future. This work is also in compliance with EA Condition 4.1.

L&F stated that they are also working with Alton Natural Gas to provide a Crown land easement for pipeline route and associated parcels of land utilized for access.

L&F confirmed that the Alton Natural Gas had submitted a recent request for a permanent access road to the pipeline.

Maps were requested from L&F showing the location of proposed activity by the proponent and what is being considered as part of a Crown land easement.

NSE – Protect Area noted that they were unaware until recently of this request and have not considered the request for a permanent road in the potential compensation plan being developed with Alton Natural Gas.

NSE plan to discuss the proposed permanent road with the Alton Natural Gas to see if it is necessary or if a temporary road can be used.

NSE and L&F discussed the current process associated with requesting compensation from the proponent, should the Crown land within the project area be designated a WPA. NSE confirmed that the request for the permanent road would need to be considered in the compensation requested of Alton.

It was suggested that a meeting be setup with the NSE and L&F to discussion how to proceed on the proposed permanent road.

**s.13(1)(c)**

Energy and Mines are currently waiting on additional information from Alton Natural Gas.

**s.13(1)(c)**

Energy and Mines has indicated it will be necessary to brief up-the-line regarding conversations with Alton Natural Gas on the expected increase in the security requested from Alton.

Energy and Mines are working on coordinating a security arrangement that would cover both the storage and pipeline portions of the project.

It was noted that the security against potential impacts to the Protect Water Area, which is a condition of the 2013 EA approval, must be completed before construction begins, which makes it time sensitive.

Energy and Mines indicated that Alton will also require a permit to construct a pipeline from the UARB.

Regarding the EA assessment of re-route #2, NSE communicated that they are prepared to advise Alton Gas of their determination, however they wanted to hear back from all the regulators, particularly L&F at the May 9, 2019.

NSE committed to send out the draft text of letter to be sent to Alton Natural Gas regarding NSE's determination on re-route #2.

OAA advised that the Mi'kmaq were informed of the proposed re-routes in November 2018.

The KMKNO with the Assembly of Nova Scotia Mi'kmaq Chiefs (Assembly) raised concerns and requested additional information from NSE.

In December 2018, NSE (consultation lead) provided an update to the KMKNO with a list of outstanding project authorizations. In this update, a request for a meeting with the KMKNO was made.

No response was received from Millbrook First Nation or Sipekne'katik First Nation on the information on the re-routing provided by the proponent in November 2018.

In response to NSE's December 2018 letter, the KMKNO were attempting to work with Millbrook FN and Sipekne'katik FN on this project and were looking to set up a joint meeting with them.

Neither Millbrook FN or Sipekne'katik FN have passed Band Council Resolutions supporting joint consultation on the Alton project with the Assembly.

NSE is working with OAA to send a project update and draft letters are being reviewed.

OAA advised that a June 2019 consultation meeting with the KMKNO is planned.

**Action Items:**

- L&F to provide a map of the proposed activities occurring on Crown land (pits, permanent roads, cutting) and the route of the proposed easement.
- L&F and NSE Protected Area to have additional discussions on the proposed permanent road.
- NSE EA to send out proposed text to Alton Natural Gas on re-route #2 modification decision.
- Energy and Mines to provide an update on the security required for the Alton Natural Gas project in order to facilitate departmental briefing up-the-line.

## Alton Underground Natural Gas Storage Facility

Following a number of appeals, the NSE – ICE Division stated that the Industrial Approval for the Alton Storage was upheld.

NSE ICE said that the current IA was actually an amended IA, for two additional conditions were added to the IA. Because it was an amended IA, there was a 30 day period in which the IA could have been further appealed.

The two new conditions added to the IA were:

- Alton Natural Gas still need to comply with other federal or provincial regulations; and
- A communications plan must be developed – that would facility communication between approval holder and Sipekne'katik FN.

NSE ICE noted that no timelines for completion were identified.

ECCC updated the fact that on February 25, 2019 a notice of intent to develop site specific regulations for the Alton Natural Gas Storage facility was publicly communicated.

ECCC provided the following link to the notice of intent announcement:

<https://www.canada.ca/en/environment-climate-change/services/managing-pollution/effluent-regulations-fisheries-act/alton-natural-gas-storage-proposed.html>

ECCC indicated that this process was proceeding and that initial discussions were held with the Mi'kmaq on possible consultation.

Agriculture indicated that they have an agreement with Alton to build the new dyke on the Shubenacadie River.

Agriculture indicated that Alton Natural Gas was approximately 90% near completion of the new dykes.

Agriculture are currently waiting on plans and drawing for the new constructed dykes. A review of the drawing and a site inspection will be required before Agriculture can sign off on the new dykes.

Agriculture indicated that a review of the dykes would require at least a month but indicated that all the supporting drawings would need to be provided first.

It was also noted that Alton gas also need to clear out the mixing channel, which will require a watercourse alteration from NSE ICE. Agriculture indicated that they would support placing the dredged material on the dykes, which is Agriculture's current practice when repairing dykes under their authority.

L&F indicated that Alton Natural Gas has an existing submerged Crown land lease for the mixing channel.

CCH indicated that archaeological work for the storage facility portion of the Alton project was completed.

**Action Items:**

## Next Steps

Regulators did not recommend setting up a proponent One-Window Meeting at this time.

Agriculture indicated that the Major Projects Coordination Initiative should reach out to Alton Natural Gas to better understand their project timelines.

On May 29<sup>th</sup> 2019, the Major Projects Coordination Initiative lead will provide key Deputy Ministers a brief update on the initiative, Alton and 5 other major projects which have been identified for coordination.

**Action Items:**

### Summary of Action Items

- The Major Projects Coordination Initiative will reach out to Energy and Mines about communicating to Alton Natural Gas on the involvement of the UARB in future Alton One-Window Meetings.
- L&F to provide a map of the proposed activities occurring on Crown land (pits, permanent roads, cutting) and the route of the proposed easement.
- L&F and NSE Protected Area to have additional discussions on the proposed permanent road.
- NSE EA to send out proposed text to Alton Natural Gas on re-route #2 modification decision.
- Energy and Mines to provide an update on the security required for the Alton Natural Gas project in order to facilitate departmental briefing up-the-line.
- Energy and Mines to share possible briefing key messages to regulators group.

- original 2013 route highlighted in yellow
- Re-route Sections are red and labeled

